


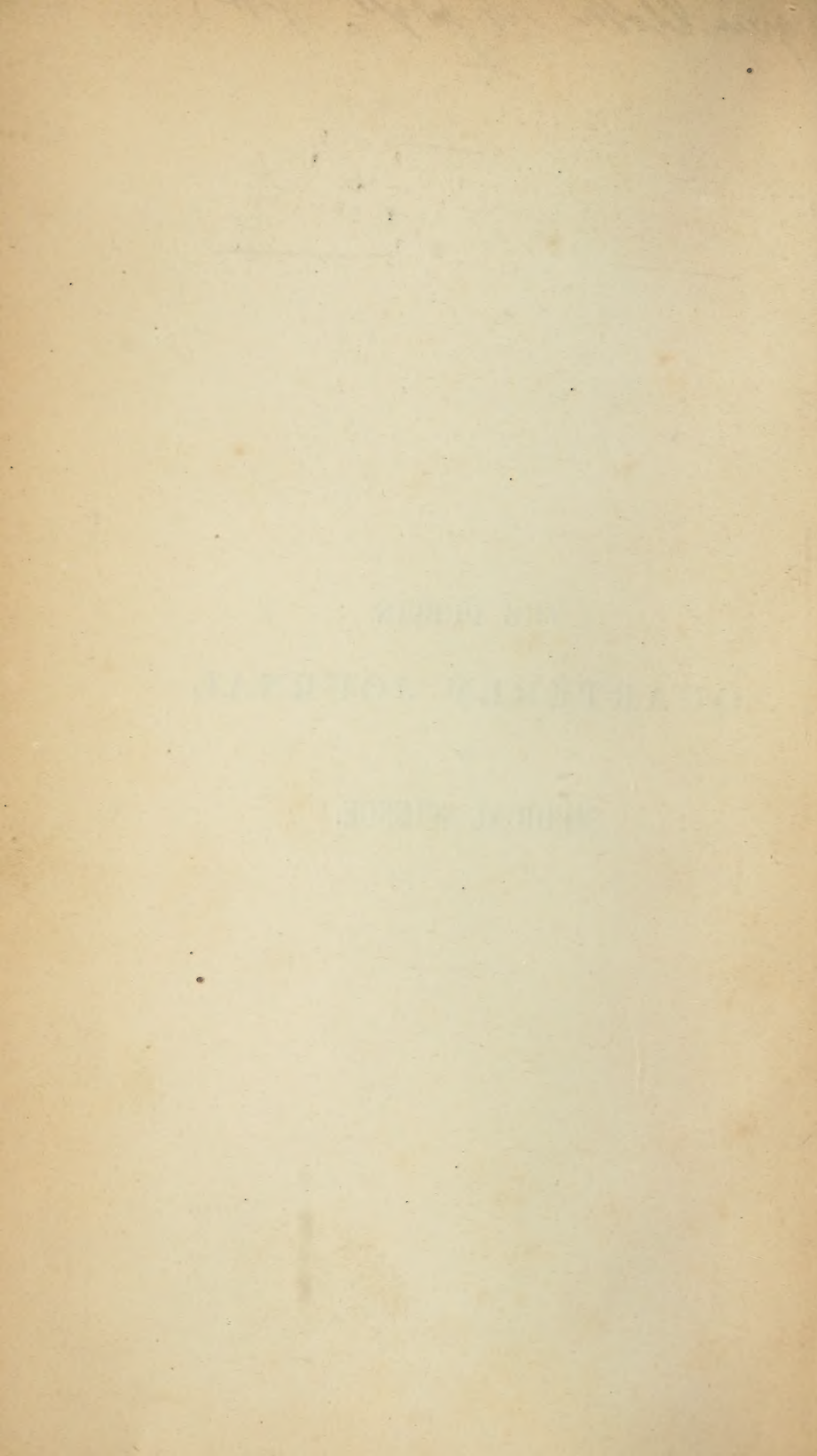
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 - vii. Homœopathy Unmasked; being an Exposure of its principal Absurdities and Contradictions: with an Estimate of its recorded Cures. By A. Wood, M.D., Edinburgh.
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 - ix. An Inquiry into the Homœopathic Practice of Medicine. By William Henderson, M.D., London.
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36. Lectures on natural and difficult Parturition. By Edward Murphy, A.M., M.D., Professor of Midwifery, University College, London, &c.—London: Taylor and Walton, 1845. pp. 255, 8vo. (In our next).

37. Editorial Address to the British Journal of Homœopathy. 1845, 8vo.

38. The Modern Treatment of syphilitic Diseases, both primary and secondary, &c. By Langston Parker, Surgeon to the Queen's Hospital. Birmingham, &c. &c. 2nd Edition. London: Churchill, 1845. 8vo. pp. 228.

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42. A Memoir on Amputation of the Thigh and Hip Joint (with a successful case). By William Sands Cox, F.R.S., &c. London: Reeve and Brothers, 1845. folio, pp. 47, Plates.

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45. Lectures on the Nature and Treatment of Deformities, delivered at the Royal Orthopædic Hospital, Bloomsbury-square. By R. W. Tamplin, F. R. C. S. E., Surgeon to the Hospital. London: Longman, 1846. 8vo. pp. 267. (In our next).

46. On Famine and Fever, as Cause and Effect in Ireland, &c. &c. By D. J. Corrigan, M.D. Dublin, 1846. 8vo. pp. 33.

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NOTICES TO CORRESPONDENTS.

The great quantity of original matter in the present Number of our Journal reluctantly obliges us to omit Dr. Stokes' valuable communication of the case of the late Dr. Colles: it will appear in our next.

We have also to apologise for want of space precluding the possibility of inserting Reviews of Professor Todd's Anatomy of the Brain and Spinal Cord; Professor Murphy's Lectures on Parturition, and Dr. Hastings' work on Naphtha in Consumption, all of which are in the Printer's hands, and would have appeared, but for the cause above-mentioned, and the greater quantity of space which we have been obliged to devote to the Pathological Reports, some of which have remained unpublished for the last two years; these, as well as Reviews of Walsh on Cancer, Günsburg's *Pathologische Gewebelehre*, shall appear in our next Number.

We earnestly request the Editors of those Periodicals with which we exchange, to direct their Publishers to have them delivered at our Office, as soon, *at least*, as they are delivered to their Subscribers.—Foreign Journals are delivered in Dublin much more regularly than those published in Great Britain.

All communications, Books for Review, or Medical or Surgical Cases, to be addressed to the Office of the Dublin Quarterly Journal of Medical Science, for the Editor, to the care of Messrs. Hodges and Smith, Booksellers to the University, 104, Grafton-street, Dublin.

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2. Chelius' Surgery. Part x.

3. A Manual of Medical Jurisprudence. By Alfred S. Taylor, F. R. S., Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital. 2nd Edition. London: Churchill, 1846. 12mo. pp. 704.

4. A Quarterly Table of the Mortality in 115 Districts of England. By the Registrar General. December quarter, 1845.

5. Journal für Kinderkrankheiten unter Mitwirkung der Herren G. Rath, Dr. Barez, und Dr. Romberg. Berlin: Dezember. Februar. März.

6. Die specielle Pathologie und Therapie, vom klinischen Standpunkte aus bearbeitet, von Dr. C. Canstatt. iii. Band. 8 Lieferung. Erlangen bei Ferdinand Enke, 1845.

7. A Practical Treatise on Abdominal Hernia. By Thomas Pridgin Teale, F. L. S. With numerous Illustrations. London: Longman, 1846. 8vo. pp. 383.

8. Observations and Essays on the Statistics of Insanity, including an Inquiry into the Causes influencing the Results of Treatment in Establish-

ments for the Insane; to which are added, the Statistics of the Retreat near York. By J. Thurnham, M. D. London: Simpkin and Marshall, 1845. 8vo.

9. The Physiology of the Nerves of the Uterus and its Appendages. By Joseph Swan. London: Longman, 1846. 8vo. pp. 31.

10. The Practice of Surgery. By James Miller, F. R. S. E., Professor of Surgery, &c. Edinburgh: Adam and Black, 1846. 12mo. pp. 688.

11. Lectures illustrative of various Subjects in Pathology and Surgery. By Sir Benjamin C. Brodie, F. R. S. London: Longman, 1846. 8vo. pp. 411.

12. Abstract of Researches on Magnetism and Allied Subjects, including a supposed new Imponderable. By Baron Von Reichenbach. Translated from the German by W. Gregory, M. D. London: Taylor and Walton, 1846. 8vo. pp. 112.

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13. Facts concerning the Natural History of the Gigantic Irish Deer (*Cervus Giganteus Hibernicus*). By H. D. Richardson, F. R. P. S. Dublin: McGlashan, 1846. 8vo. pp. 54.

14. The Hunterian Oration, delivered at the Royal College of Surgeons, London, on the 14th of July, 1846, by William Lawrence, F. R. S., &c., &c. London: Churchill, 1846. 8vo. pp. 68.

15. The Vegetable Kingdom; or the Structure, Classification, and Uses of Plants, illustrated upon the Natural System. By John Lindley, M. D., F. R. S., and L. S., Professor of Botany in the University of London, &c., &c.; with upwards of 500 Illustrations. London: Bradbury and Evans, 1846. 8vo. pp. 908.

16. The Medical Police of the United Kingdom, "from the Westminster Review for March, 1846." Pamphlet, 8vo. pp. 35.

17. A Manual of Physiology, including Physiological Anatomy, for the Use of Medical Students. By W. B. Carpenter, M. D., F. R. S., &c.; with Illustrations. London: Churchill, 1846. 12mo. pp. 582.

18. *Annalen der Chemie und Pharmacie* herausgegeben; von Friedrich Wöhler und Justus Liebig. Heidelberg: Januar. 1846.

19. Transactions of the Medical Society of London. New series, vol. i. London: Highley, 1846. 8vo. pp. 221.

20. Medical Notes on China. By John Wilson, M. D., F. R. S., Inspector of Naval Hospitals and Fleets. London: Churchill, 1846. 8vo. pp. 267.

21. A Series of Essays on Inflammation and its Varieties. Essay I: The Natural History of the Disease, with preliminary Observations. By Henry Clutterbuck, M. D. London: Highley, 1846. 8vo. pp. 67.

22. Three Reports by the Joint Deputation of the Society of Apothecaries and the National Association of General Practitioners, appointed to confer with the Secretary of State on the Subject of the Incorporation of the General Practitioners in Medicine, Surgery, and Midwifery. London: Highley, 1846. 8vo. pp. 46.

23. Scrofula, its Nature, its Causes, its Prevalence, and the Principle of Treatment. By Benjamin Phillips, F. R. S., &c., &c. London: Bailliere, 1846. 8vo. pp. 379.

24. An Investigation into the Nature of Black Phthisis or Ulceration, induced by carbonaceous Accumulation in the Lungs of Coal Miners and other Operatives. By Archibald Makellar, M. D., F. R. S. S. A., &c., &c. Edinburgh: Sutherland and Knox, 1846. 8vo. pp. 50.

25. *Physiologie Pathologique, ou Recherches Cliniques, Expérimentales et Microscopiques sur l'Inflammation, la Tuberculisation, les Tumeurs, la Formation du Cal, &c.* Par H. Lebert, M. D., &c., &c. Tome iii. Et accompagné d'un Atlas de Vingt-deux Planches Gravées. A Paris: Baillière, 1845. 8vo. pp. 544 et 515. Atlas, 56.

26. *Analekten über Kinderkrankheiten oder Sammlung Auserwählter Abhandlungen über Sammtliche, Krankheiten des Kindlichen Alters zusammengestellt zum gebrauchte für Praktische Ärzte* Stuttgart. Four vols. 8vo. 1837.

27. *Vergleichend-Anatomische Untersuchungen über das innere Gehörorgan des Menschen und der Säugethiere.* Von Joseph Hyrtl, M. D., &c. Mit neun Kupfertafeln. Prag. Ehrlich, 1845. Folio, ss. 139.

28. *Memoranda on difficult Subjects in Anatomy, Surgery, and Physiology, &c.* By Mark Noble Bower, Surgeon. Second Edition. London: Bradshaw, 1846. 16mo. pp. 259.

29. *Liebig's Physiology, applied to the treatment of Practical Derangement and organic Disease. With Observations on Hahnemann's Practice.* Part I. The Heart, Lungs, Stomach, Glands, Joints, and Bones, with Cases shewing the Advantage of modern Science over former Methods in the Treatment of Diseases. By John Leeson, M. R. C. S. E. London: Renshaw, 1846. 8vo. pp. 219.

BOOKS AND PERIODICALS WITH WHICH THE DUBLIN QUARTERLY JOURNAL IS EXCHANGED.

1. *Medico-Chirurgical Review and Journal of Practical Medicine.*
2. *The British and Foreign Medical Review, &c.* Edited by John Forbes, M. D., &c.
3. *The Edinburgh Medical and Surgical Journal.*
4. *The Transactions of the Provincial Medical and Surgical Association.* Received vol. xiv. New Series. Vol. ii. London: Churchill, 1846. 8vo. pp. 295.
5. *The Pharmaceutical Journal and Transactions.* Edited by Jacob Bell.
6. *The Northern Journal of Medicine.* Edited by William Sellar, M. D. Edinburgh.
7. *Monthly Journal of Medical Science.* Edited by John Rose Cormack, M. D. Edinburgh.
8. *The Athenæum.*
9. *London Medical Gazette, or Journal of Practical Medicine.*
10. *Provincial Medical and Surgical Journal.* Edited by Robert Streeten, M. D.
11. *Dublin Hospital Gazette.*
12. *The American Journal of Medical Science.* Edited by Isaac Hays, M. D., &c., &c. Philadelphia. Received Number for January, 1846.
13. *The New Orleans Medical and Surgical Journal, devoted to Medicine and the collateral Sciences.* Edited by Drs. Carpenter, Fenner, Harrison, and Hester. New Orleans. Received Number for January, 1846.
14. *The British American Journal of Medical and Physical Science.* Edited by Archibald Hall, M. D., Lecturer on Chemistry, and Robert L. Macdonnell, M. D., Lecturer on Institutes of Medicine; University of McGill College. Montreal. Received Number for February, 1846.
15. *Gazette Médicale de Paris.*
16. *Gazette Medico-Chirurgicale a Paris.*

17. *La Lancette Française*, Gazette des Hopitaux Civils et Militaires. Paris.
18. *Annales d'Oculistique*, publiées par la Dr. Florent Cunier, Bruxelles, Janvier, Fevier, Mars.
19. *Journal de Médecine de Chirurgie et de Pharmacologie de Bruxelles*. Janvier.
20. *Journal de Chimie Médicale, de Pharmacie de Toxicologie et Revue des Nouvelles*. Paris. Nos. i. ii. iii.
21. *Journal de Pharmacie et de Chimie*. Paris.
22. *Archives Général de Médecine*, a Paris. Fevier: 1846.
23. *Zeitschrift für die Gesamnte Medicin mit besonderer Rücksicht auf Hospital praxis und ausländische Literatur*. Von Dr. F. W. Oppenheim. *The last Volume of this valuable Journal is dedicated to Dr. W. Stokes.*
24. *Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*—Redakteur, Dr. Karl Haller. December, 1845. Januar, Februar, 1846.
25. *Gazzetta Medica de Milano*.

NOTICES TO CORRESPONDENTS.

From the space allotted to the review department of this Journal being necessarily limited, we are not able to give lengthened reviews of more than a few works each time; we, therefore, purpose devoting a few pages in each of our subsequent Numbers to short bibliographic notices of such works as may be forwarded to us, and that are not disposed of as heretofore.

With the Index to the present volume we publish a list of our Irish Subscribers, to be bound up after the Title page, and beg to return thanks to our friends for the unparalleled support which we have received since the issue of the first Number of the present series. Heretofore the Dublin Journal has circulated chiefly in England and the Colonies; but we feel assured that the Profession in Ireland will patronize a native periodical, when the materials of such are equal in value to those of any similar production in Great Britain.

Since the publication of the February Number, we have to record the death of Professor Greene, of Dublin, of whom see our Obituary at the end of this volume; and also the deaths of Drs. Byron, of Navan; Hannan, of Lucan; Roney, of Dublin; Harrison, of Ballinasloe; and Woodward, of Kells. Dr. Byron was a contributor to the Dublin Journal of several valuable communications on malignant diseases, and other subjects of great importance to surgical and medical science.

With the conclusion of the second volume in each year, we will furnish a list of those gentlemen who have passed their examination at the College of Physicians, the University, the College of Surgeons, or the Apothecary's Hall.

THE EDITOR'S PREFACE.

THE HISTORY OF PERIODIC MEDICAL LITERATURE IN IRELAND,
INCLUDING NOTICES OF THE MEDICAL AND PHILOSOPHICAL
SOCIETIES OF DUBLIN.

IN presenting our Readers and the Public with the first Number of THE DUBLIN QUARTERLY JOURNAL OF MEDICAL SCIENCE, we beg leave, before we enter upon the claims which we conceive we have on the Profession, or the mode in which we intend conducting this work, to give a brief sketch of the periodical medical literature of this country.

Prior to the present century there did not exist any journal of the medical sciences in this part of the United Kingdom. During the days of the Boates, and even in those of Petty, the Molyneauxs, Willoughby, John Madden, Chamberlain, Mullen, Dun, Threlkeld, Steevens, Proby, and other eminent Physicians and Surgeons, about the close of the seventeenth and the beginning of the last century, the few detached papers that emanated from the Profession in Ireland were chiefly published in the Philosophical Transactions. The Transactions and Proceedings of learned societies were at that time, and, indeed, for a long period subsequent to it, the only medium through which men of science and letters could make known their investigations, except in the form of separate and distinct works: and even in the middle of the last century the extent and power of periodical literature on the world of letters, as it now exists, could not possibly have been imagined. The influence of the Medici, and the Society of the Del Cimento in Italy: and the Danube Society, in Austria, instituted so early as the

end of the fifteenth century, by the celebrated Conrad Celtes, progressed medicine; afterwards the Academia Naturæ Curiosorum, founded in 1652, by Bauschius, but since known under the title of the Leopold Academy, published papers connected with medical science; subsequently, the Medical Academy of Palermo, and the Montpellier physicians, together with the academies and chartered societies of London, Paris, Petersburg, Berlin, and other European capitals, to a certain degree fostered the healing art, and encouraged medical discoveries, by printing articles on such subjects in their literary records. At the conclusion of the seventeenth century, there were no learned societies in existence in Ireland, and, therefore, the few essays that emanated from the Dublin literati on scientific subjects were published by the Royal Society of London, which was at that particular period, by the influence of Boyle, W. Molyneaux, St. George Ashe, and other distinguished Irishmen, induced to look favourably on the productions of their brethren in the West.

It is scarcely necessary to observe, that in this brief sketch we do not include the history of medicine in Ireland, nor even attempt to catalogue the names and labours of the many distinguished writers, both in the original tongue, and in Latin and English, who flourished during the last five centuries in this island. Sir James Ware has enumerated several of these, and we have in another place thrown our mite into this valuable treasury (*a*). Those who have taken any interest in the scientific and literary progress of this country during the last ten years, must be aware of the valuable collections of manuscript medical works in the Irish character which the Royal Irish Academy and the University have, with becoming taste, possessed themselves of;—besides which there are several in the hands of private individuals.

When all these shall have been thoroughly examined and investigated by competent persons, and their contents arranged

(*a*) See notices of Irish medical Manuscripts in the Census for Ireland, 1841.

and collated, with those detached notices of medicine, disease, and medical men, which exist in the literary annals of our country, they will form, we fear not to assert, a record of medicine in point of interest not inferior to, and extending from a period as remote, as that of any country in north-western Europe. It is not a subject, however, to be put forward hastily, nor without due consideration, and the examination of a vast number of authorities, but we promise our readers to take it up in detached portions, from time to time, in our subsequent Numbers, as materials shall be afforded us.

In the early volumes of the Philosophical Transactions the writings of the Hon. Robert Boyle (*b*) facetiously styled by a lecturer at the Dublin Society, "the father of Chemistry and the son of the Earl of Cork," played no inconsiderable part, but they relate chiefly to chemistry and the abstract sciences. The works of Dr. John Stearne, the first President of the College of Physicians (1661), were chiefly theological, and we do not find any notice of him in the transactions of the Royal Society;—neither does Edmund O'Meara, who wrote the "*Examen Diatribæ Thomæ Willisii de Febribus, * * * cui accesserunt Historiæ aliquot Medicæ rariores*" (London, 1665, 8vo.), figure among the worthies of that body: and his father Dermot O'Meara, a distinguished Irish physician and poet, flourished before the days of periodical literature.

About this time flourished the celebrated Valentine Great-

(*b*) Several of Boyle's works, not published by the Royal Society, treated more immediately on medicine than his education or the general tenor of his writings would lead us to expect, for instance:

Physiological Essays. London, 4to., 1662, and 1669.

Memoirs for the Natural History of human Blood, especially the Spirit of that Liquor. London, 8vo. 1684.

Of the Reconcilableness of specifick Medicines to the Corpuscular Philosophy, to which is annexed, a Discourse about the Advantages of the Use of simple Medicines, proposed by Way of Invitation to it. London, 1685, 8vo.

Medicina Hydrostatica, &c. London, 8vo. 1690. And among his posthumous works edited by Dr. Shaw, are:—*Experimenta et Observationes Physicæ*. 1691, 8vo.; and also *Medicinal Experiments*. London, 1718, 8vo.

reaks, generally known as the “*stroking doctor*” for his supposed cures of scrofula, rheumatism, and epilepsy, or, as Ware informs us, his “wonderful gift of healing king’s evil and other ulcers and pains, by stroking the parts affected;” so that the Members of the “Royal Society and other modern philosophers,” not able to dispute the fact, found words to define it, and called those strange effects “a sanative contagion in his body which had an antipathy to some particular diseases and not to others.”

This influence (so called) had, nearly two hundred years ago, as great an effect on the public mind as, under another title (that of Mesmerism), it has at the present day—nay, even more so, for the cures said to be performed by its means were printed in the Philosophical Transactions by Mr. Thoresby; and the observant and learned Boyle annexed his testimonial of their efficacy, along with those of Drs. Whichcote, Cutworth, Patrick, and other eminent men of science and reputation, to the account which Greatreaks published of his wonderful cures(*d*).

(*d*) “A brief Account of Mr. Valentine Greatreaks, and divers strange cures by him lately performed; in a Letter to the Honourable Robert Boyle, Esq.” London, 1666, 4to.

This work was written in answer to an attack made upon him by Mr. David Lloyd, Chaplain to the Charter House, entitled, “Wonders no Miracles; or, Mr. Valentine Greatreaks’ Gift of Healing examined.” London, 1666. From this period his star ceased to be in the ascendant, and what the Royal Society, and the wise and learned wondered at, sanctioned, and applauded, the common sense and truthful narrative of a Welch parson, and the ridicule and satire of an English novelist, completely dispelled, for “I am mistaken,” says Ware, “if it was not on this occasion that Mr. St. Evermond wrote a novel called the ‘Irish Prophet,’ wherein he ingeniously exposes the people’s credulity.” See also The Dublin Penny Journal for 1833, vol. i. p. 401, for some further account of Greatreaks.

Touching for the evil has long been in vogue among the lower orders of the Irish, either by the hand of a person of a particular family believed to be endowed with the power of healing, or with a piece of linen supposed to be marked with the blood of King Charles the first. We remember seeing the late worthy Abbot of Cong (who possessed the celebrated Cross of Turlogh O’Connor and the shrine of the *Fiacail Phadraig*, both now in the splendid collection of

Richard Peers, though a Doctor of Physic, as well as an elegant writer and profound Latin scholar, has not left any medical works after him; and with the exception of an inaugural Essay, the same may be said of Dr. Joseph Pratt.

Dr. Allen Mullen, or Moulin, was the first medical man of eminence in this country who published in the *Philosophical Transactions*; but his original work was "An Anatomical Account of the Elephant accidentally burnt in Dublin, on Friday, June the seventeenth, in 1681, in a Letter to Sir William Petty" (*c*), and which was allowed to be the best description of that animal at the time it was written. The same volume contains his relation of "new anatomical observations in the eyes of animals," in a letter addressed to Boyle.

The year 1683 is memorable in the annals of scientific literature in Ireland for the formation of the DUBLIN PHILOSOPHICAL SOCIETY, the great prototype of all our existing learned bodies, but in particular of the Royal Irish Academy. It was commenced in October in that year by William Molyneux, "the friend of Locke," and the distinguished mathe-

the Royal Irish Academy), rubbing persons affected with various diseases, but principally scrofula, with a small piece of linen rag, on which were some dark-coloured stains, said to have been the blood of the martyr. This relic was always preserved by him with the greatest care, along with the two interesting antiquities above mentioned; it passed after his death into the hands of his relatives, the Prendergasts, of Ballindangan, in the County of Mayo. The venerable Abbot was himself convinced of the authenticity, if not the efficacy of it. The blood of the Keoghs, when transmitted unmixed on either side for three generations, is still used even in the vicinity of this city, and considered by the ignorant, only next in infallibility to that of a black cat, for the cure of St. Anthony's Fire: and it is believed throughout Munster, that the blood of any of the Walsh family will relieve the same disease,—because St. Patrick was a Welchman!! Ware informs us that "One James Fienachty, an Irish priest, made a great noise before and after the Restoration for curing all sorts of diseases (which he held to be the effects of possession) by *exorcisms and stroking*, and was followed for some years by vast numbers of people, but at last was discovered to be a mere cheat. He printed a small book of his own, done in London. There is a long history of him in the Irish Remonstrance."

(*c*) London, 1682. 4to.

matician and astronomer, who was the first secretary of this society, in which the chief medical men in Dublin of that time took a conspicuous part.

Periodical literature is the natural offspring of learned and debating societies, and as that just alluded to gave rise to many interesting papers and discussions upon anatomical and medical science, it here presents us with a legitimate subject for our investigation. As there is no detailed account of this body in print, and as the notices of it which have as yet appeared are always exceedingly brief, and frequently incorrect, we have for some years past endeavoured to collect as much of its history and proceedings as the scanty records scattered here and there in works and libraries afford. With these materials—with the manuscripts and correspondence of both William and Thomas Molyneaux placed in our hands by Sir Henry Marsh—from a careful examination of the documents belonging to it in the Manuscript Library of our University; and from the Minute Book still preserved in the British Museum, which has been accurately noted for us by a kind friend(*f*), we have made, through these and other sources, some more memoranda of the history of the Philosophical Society than the usual accounts afford, which we here offer without apology to our readers: being the substance of a communication lately made by us to the Royal Irish Academy.

In the manuscript correspondence just alluded to, we find in a letter from William Molyneaux to his brother Thomas, then in Leyden, and dated 30th October, 1683, N.,S., the following:—"I have also here promoted the rudiments of a society, for which I have drawn up rules, and called it *Conventio Philosophica*. About half a score or a dozen of us have met about twelve or fifteen times, and we have very regular discourses concerning philosophical, medical, and mathe-

(*f*) Mrs. R. Lee, Author of *The Memoirs of Cuvier*,—*Taxidermy*,—*Elements of Natural History*, &c. &c.

matical matters. Our convention is regulated by one chief, who is chosen by the votes of the rest, and is called *Arbiter Conventionis*, at present Dr. Willoughby (the name 'President' being yet a little too great for us). What this may come to I know not; but we have hopes of bringing it to a more settled society. The event you shall know. Sir W. Petty and all the virtuosi of this place favour it much; and have at some times given us their company."

From this it would appear that Dr. Willoughby was virtually, though not in name, the first President, and Molyneux the original Secretary, although the former honour has been generally conferred on Sir William Petty, who, however, was not elected till the 1st of November, 1684(*g*).

The first meeting took place on the 15th of October, 1683, when papers were read by Mr. William Molyneux, Dr. Narcissus Marsh, afterwards Archbishop of Dublin, Mr. Foley, and Mr. St. George Ashe. It is remarkable that although Ware, Birch, and Whitelaw(*h*) have agreed in dating the origin of this society in 1683, Mr. Halliwell has, in a "Collection of Notes on the early History of Science in Ireland," published in the proceedings of the Royal Irish Academy, stated that its first meeting took place on the 28th of January, 1684. In the winter of 1683, writes Archbishop Marsh in his Diary, "was set up the Philosophical Meeting in Dublin, that

(*g*) "At this election Sir W. Petty and Dr. Willoughby had equal marks for President, but upon a second election Sir William carried it by four votes, so he stood. Afterwards we had a handsome dinner at a tavern, so finished the day."—*Molyneux Correspondence, Dublin University Magazine*, vol. xviii., p. 489.

(*h*) The History of the Writers of Ireland, in two books, &c., by Sir James Ware, Knt.; edited by W. Harris, Esq., Dublin; 1764, fol.

The History of the Royal Society of London for improving of natural Knowledge, &c., as a Supplement to the Philosophical Transactions; by Thomas Birch, M.D., Secretary. 4 vols., London, 4to., 1754-57.

History of the City of Dublin, &c., by J. Warburton and Rev. J. Whitelaw, and edited by the Rev. Robert Walsh, 2 vols. London, 1818. 4to.

met and formed itself into a society, in the Provost's lodgings. There, at the first opening of it, as a prelude to what we were to do, I in three or four days' time, composed *An Introductory Discourse to the Doctrine of Sounds*, which was sent to the Society in Oxford, and then printed in the *Philosophical Transactions*(*i*)."

Not having facilities for publishing their proceedings in Ireland, it appears that they determined upon offering them to the Royal Society; accordingly, on the 18th of December, 1683, the Provost, Dr. Robert Huntingdon, wrote a letter to Dr. Plot, of the Royal Society, giving an account of "a weekly meeting of several ingenious men about philosophical subjects in Dublin." This notice, which is recorded in the letter book of the Royal Society (vol. ix. p. 103), informs us that W. Molyneaux, then residing near Ormond's Gate (now Wormwood Gate), and who was at that period engaged in writing an "Atlas for this Country," was Secretary:—"And since," he writes, "you so generously, as well as charitably, offer your assistance, I think this will be the best method of conveyance, to transmit our notices to the Secretary of the Royal Society, who, after he has perused them, can send them to Oxford" (where a similar society, under the care of Mr. Musgrave, had just been established), "as you likewise by him may send hither. After Christmas that we next meet, our Secretary will pursue that course; you smoothing our way at London once again, as it seems you have already done.—After awhile we may perchance ease ourselves of that expense, and have our intelligence for nothing(*k*). However, you may be sure we shall never grudge to defray all manner of charges that

(*i*) The Diary of Archbishop Marsh, from a transcript in "Marsh's Library," Dublin, published by the Rev. Dr. Todd in "The British Magazine" for July and August, 1845.

(*k*) The Royal Society charged only half payment to the Members of the Dublin Society (see Minutes for 4th July, 1685.)

shall be incident to our correspondences, and we have raised a fund of which to do it. By Moses Pit⁽¹⁾, if not before, you may expect one or two of their discourses at large : for the way is for particular subjects mentioned in the foregoing meeting to be treated on by particular persons the next, and when they have done, every one that has anything to add or object has his time to express it. I don't give you the names of our society, because you know few of them except the Bishop of Ferns and Leighlin, Sir William Petty, and Dr. Willoughby, and besides you will receive it more authentic from the Secretary. Several of the number meet on Sunday nights, as the whole company does on Mondays, to discourse theologically, of God, suppose, and his attributes, and how to establish religion and confute atheism by reason, evidence, and demonstration."

Having complimented Dr. Plot, and conveyed to him the thanks and acknowledgements of this "young society for the promotion of philosophy, on account of the advantageous correspondence offered to it by the Royal Society," he encloses him an account of some previous meetings tending to its "better regulation, settlement, and future transactions," and also the Minutes for October 15, 1683.

When we first commenced this inquiry some years ago, we were under the impression that the Transactions of this society were still in existence, and would one day or another be discovered, and acknowledged by some of the public libraries or private collections in these kingdoms. We have since, however, convinced ourselves of the contrary being the fact, and feel assured that no manuscript volume of the Transactions of the Dublin Philosophical Society is, or perhaps ever was in being.

The Minute Book of this society, from 1683, to November, 1686, with its revival in 1693 and again in 1707, is still preserved in the British Museum (Addit. MSS.,

(1) Moses Pit, a celebrated London bookseller, and publisher of "The Atlas."

4811). In the Manuscript collection in the Library of Trinity College we find among some scattered papers lately collected by the Rev. Dr. Todd, rough drafts of the minutes of the Dublin Philosophical Society, in the handwriting of William Molyneaux, from January the 28th, to June the 9th, 1684, all of which accord with the notices of this body still existing in the papers of the Royal Society. On the first of these dates we read that the officers for that year were appointed, and the "obligation subscribed." At that time there was no President (as already stated in the Molyneaux correspondence); Dr. Willoughby was appointed Director, and William Molyneaux Secretary and Treasurer. The members present were Dr. Narcissus Marsh, Sir William Petty, and Messrs. Bulkeley, Cuff, Foley, Baynard, Ash, Mullen, Follet, Baggot, and Mr. Keogh, who was represented by proxy. At this meeting Sir William Petty read a paper on Concentric Circles.

On the 18th of February the Minutes closed with this notice. "Nicholas Hudson, our operator, attended on us." (MS., T. C. D., Cl. I. Tab. 4, No. 18, p. 11).

The unpublished Letter Books of the Royal Society, and Birch's History of that body, likewise contain the Minutes of the Dublin Philosophical Society from its first meeting on the 15th of October, 1683, to the end of 1687, after which we have not been able to discover any record of its proceedings from these sources.

The principal papers read to this body, all of which are enumerated in the Minutes, were either printed in the Philosophical Transactions, or formed the material for distinct works or monographs, which were published by their respective authors, and many of the communications were delivered in form of *viva voce* discourses at one sitting, and debated at the next.

There are two manuscript volumes of county histories in the library of the University of Dublin (from which the History of West Connaught is now about to be printed by the Irish Archæological Society), which have generally been supposed

to have formed part of the transactions of the Philosophical Society, but as some of the papers in these are dated in 1682, prior to the creation of that body, and as we have no notice or allusion made to any of them in the Minutes of the society, which are in every other respect so full and explicit, we feel assured that they were written and intended for the general survey of Ireland under Sir William Petty.

Dr. Plot was desired to acquaint the Provost of Trinity College that the Royal Society very willingly embraced the correspondence of the Society in Dublin, and had ordered their secretary to write to them in the manner proposed: accordingly Mr. Aston wrote to Mr. Molyneaux to that effect, a letter, dated the 26th of February, 1684, which is inserted in the unpublished Letter Book of the Royal Society (vol. ix. p. 111).

This courtesy of the Royal Society is alluded to in one of the letters of William Molyneaux to his brother Thomas, then residing in Holland, which we extract from the interesting correspondence of those gentlemen published by ourselves some years ago in the University Magazine.—“I know,” says William Molyneaux, “you would willingly hear what has become of our meeting here in Dublin, of which take this following account. Since my last to you concerning this particular, we have constantly every Monday had a meeting, at which one or other would produce discourses no ways contemptible, till about a week before Christmas, we received a letter from Dr. Plot, directed particularly to the Provost, Dr. Huntingdon, but designed in general for us all, in which he takes notice of our design here on foot, for Dr. Huntingdon had formally given him an account thereof, and encourages us to go on vigorously therewith, promising us all the assistance we can desire, as, likewise, the favourable countenance and encouragement of the Royal Society, as also of such another philosophical meeting as our own, begun within these three months at Oxford: assuring us also of the constant correspondence of them, and that we may at any time command

whatever we may please to hear communicated from them. This encouragement from so great a man, as he is secretary both to the Royal and Oxford Societies, made us think upon modelling ourselves into better form; and accordingly, the Bishop of Ferns, Sir Wm. Petty, Dr. Willoughby and I, were pitched upon to draw up rules, to be presented to the consideration of the rest after the holidays; so that yesterday (Jan. 7, 1684) our rules were presented, and are ordered to be read at three several meetings before they pass.

“The rules are much the same as those of the Royal Society, and we have entrance money, and a weekly contribution, but what it will yet come to, God knows.”

On the 10th of May, William Molyneaux wrote to his brother, then at Leyden, the following notice of the young Society:—“Our society goes on, we have a fair room in Crow’s Nest” (off Dame-street), “which now belongs to one Wetherel, an apothecary, where we have a fair garden for plants,” where they first met in April of that year. And again, upon the 14th of June we read: “Our society has built a laboratory by Dr. Mullen’s directions, in the same house where we have taken a large room for our meeting, and a small repository.”

Subsequent to the general meeting in November, 1684, a list of the members of the Philosophical Society was forwarded to Mr. Aston, to which we have added the names of some seven or eight others who, either prior or subsequent to the publication of this list, were, we have positive assurance, connected with this society, prior to 1688.

President, Sir William Petty, Knt., M.D.

Director, Charles Willoughby, M. D.

Treasurer, William Pleydall, Esq.

Secretary, William Molyneaux, Esq.

MEMBERS.

Narcissus Marsh, Bishop of	Henry Fenerly, Esq.
Leighlin and Ferns.	J. Finglass, M. A.

William Lord Viscount Mountjoy.	Samuel Foley, F. T. C. D., afterwards Bishop of Down and Connor.
Robert Huntingdon, D.D., Provost T. C. D.	Daniel Houlaghan, M.D.
John Worth, D. D., Dean of St. Patrick's.	John Keogh, M. A.
John Baynard, A. M., Archdeacon of Connor.	Dudley Loftus, afterwards Judge of the Prerogative Court.
Sir Robert Redding, Bart.	George Tollet, Professor of Mathematics.
Sir Cyril Wyche, Knt., P. R. S.	—— Patterson, Surgeon.
Richard Bulkeley, F. T. C. D., afterwards Knt. and Bart.	John Maden, M. D.(<i>m</i>)
Patk. Dun, M.D., afterwards Knt.	Allen Mullen, M. D.
William King, F. T. C. D., afterwards Archbishop of Dublin.	William Palliser, F. T. C. D., Professor of Divinity, and afterwards Archbishop of Cashel.
Richard Acton, B. D., F. T. C. D.	Edward Smith, F. T. C. D., Professor of Mathematics, and afterwards Bishop of Down and Connor.
St. George Ashe, F. T. C. D., afterwards Bishop of Cloyne.	John Stanley, M. A.
Mark Baggot, Esq.	Jacobus Sylvius, M. D.
John Bulkeley, Esq.	—— Walkington, Esq.(<i>n</i>)
Paul Chamberlain, M. D.	Sir Paul Ricaut, ——
Robert Clements, Esq.	
Francis Cuff, Esq.	
Christopher Dominick, M.D.	
<i>Corresponding Member.</i> —Doctor, afterwards Sir Thomas Molyneaux, Bart.	

(*m*) The name of Madden (or Maden, as it is written in the Minutes of the Philosophical Society) is intimately connected with the rise of science, literature, and medicine, in this country. The John Maden, M. D., here alluded to, was son of Thomas, of Maddenton, and died in 1703. His family were connected with, and he himself was the intimate friend of the Molyneauxs. His son, the Rev. Samuel Madden, commonly called "Premium Madden," was the founder of the Royal Dublin Society in 1731. See "The Tribes and Customs of Hy-Many," by John O'Donovan, printed for the Irish Archaeological Society.

(*n*) I have not been able to discover the Christian name of this gentleman, as the name was common in the University at that period. It was probably Samuel Walkington, who was a Scholar in 1680, for Edward Walkington who was a Fellow in 1676, Archdeacon of Ossory in 1683, and afterwards

These men formed the *stellæ majores* of Irish literature and science at this period; and nearly every one of those of whom we have any subsequent account attained to considerable eminence either here or in England. At this time Sir W. Petty designed to remodel the society, and drew up a code of laws for its future regulation and government, which were deemed worthy of being referred to the council of the Royal Society, to see how far they might be useful to that body. We here find from authentic documents that some of the principal men of learning and science at that time in Great Britain, and even on the Continent, looked with a favourable eye on our Philosophical Society, and addressed to it, through its Secretary, several letters and papers upon scientific subjects, some of which are still preserved in the original Minute Book in the British Museum, and abstracts of which are to be found in the records of the Royal Society. At the end of the first year we find its progress thus recorded by William Molyneaux. "Our society has been complimented in the philosophical acts, as you will find by the paper Mr. Ashe will send you, wherein for curious subjects (invented by our learned and ingenious Provost) I think we may vie with any Oxford ever had, and truly most of the poems and speeches thereon were excellent. Thus, Tom., you see that learning begins to peep out amongst us. The tidings, that our name is in the journals of Amsterdam, was very pleasing to me, and really, without vanity, I think our city and nation may be herein something beholding to us, for I believe the name Dublin has hardly ever before been printed or heard of amongst foreigners on a learned account." The Minutes of the Oxford Society were likewise regularly transmitted and read at the meetings of the Philosophical Society of Dublin.

On the 11th of May, 1685, "Mr. Molyneaux going for England, Mr. Ashe was chosen Secretary; and Mr. Tollet

Bishop of Down and Connor, in 1695: was elected into the Philosophical Society on its revival in 1693.

was then nominated Treasurer in Mr. Pleydall's place." These gentlemen were continued in office at the November meeting of that year, and Lord Mountjoy was elected President. In June, 1686, Mr. Edw. Smith(o) was chosen Secretary, and the other officers of the society were re-elected at the general meeting, together with the following council:—Sir R. Redding, Sir Paul Ricaut, the Provost, Dr. Willoughby and Mr. W. Molyneaux. They then adjourned to the 5th November. The last notice of the society at this period which we have been able to discover, is in the Minute Book of the Royal Society, in which, according to Birch, we read, that on the 13th of July, 1687, "the minutes of the Dublin Society for several months past, were read," but there is no detail of their proceedings given. When the society actually ceased to exist at that period is not precisely known, but Dr. Hutton and other authorities are of opinion that it was not till 1688(p). The Minute Book in the British Museum has no entry after the 6th November, 1686. For some time, both previous and subsequent to the last note in the Minute Book, it would appear from the letters and other communications made by several of its members directly to the Royal Society, that its meetings were few and irregular: even so early as the 10th of August, 1685, we read thus in the Secretary's letter to the Royal Society, enclosing the Minutes,—“our company of late has been very thin, and people's heads so much dulled with politics, that next meeting, I believe, we shall adjourn till the term.”

The unsettled state of this country in 1687 and 1688, caused a complete rupture of all society, both public as well as private, and several of the principal members of the Philosophical Society removed from Dublin.

(o) In the minutes for 21st July, 1684, we read as follows:—“Ordered, That the thanks of this society be returned to Mr. Smith, for the honour he did us in the public act in the College on this *lemma paradoxon vetus Ægyptiacum, quod sol nonnunquam oritur in occidente. Demonstratur se Societate ad promovendam scientiam naturalem Dublinii nuper instituta.*”—Birch's *History of the Royal Society*, vol. iv., p. 324.

(p) Hutton's *Mathematical Dictionary*, vol. ii. p. 61.

The subjects entertained by this society during the first four years after its establishment may be considered under the following heads: Mathematics and Physics; Polite Literature; History and Antiquities; and, Medical Science, including Anatomy, Zoology, Physiology, and Chemistry; and with some pains we have arranged under their respective denominations the following list of the *principal* subjects, together with the names of their authors, as recorded by the Dublin Philosophical Society during the early years of its existence:—

MATHEMATICS AND PHYSICS.

Mr. W. MOLYNEAUX.—De apparente Magnitudine Solis.—Explanation of the Volution of Concentric Circles.—On Telescopic Sights.—On the viewing of Pictures in Miniature with the Telescope.—Calculations on the Solar Eclipse.—An Essay on Crystallography.—Experiments on Hydrostatics.—On the Hydroscope, and the Variations of the Barometer.

Dr. T. MOLYNEAUX.—Account of the Astronomer Huygens.

Dr. MULLEN.—Magnetical Experiments (several papers).

Lord MOUNTJOY.—On the Air Gun.

Sir W. PETTY.—Magnetical Observations.—On Weather Registers.—Ship-Building.—On the Construction of Carriages.—On Concentric Circles.

Mr. St. G. ASHE.—Review of De Chasles' Book on Motion.—On the Evidence of mathematical Demonstration.—On the Solar Eclipse.—On the Weather Registry, T. C. D.—Experiments on Freezing.

Mr. BULKELEY.—On Wind Guages.—A new Pump for Ships.—The Mechanism of Carriages.

Dr. SMITH.—De Angulo Contactus.

Mr. STANLEY.—Discourse on the Motion of Water.

Mr. TOLLET.—On the Longitude.—On Gunnery.

Mr. WALKINGTON.—Observations on Archimedes.—Ditto on Algebra.

Dr. FOLEY.—Objections against Algebraic Calculations.—Computatio Universalis.

Mr. KING.—On the Difference in Size between the horizontal and meridional Sun.—On the Acceleration of descending Weights,

and the Force of Percussion.—On Hydraulics.—On the Trisection of an Angle.

Dr. NARCISSUS MARSH.—On the Radii Reflectis et Refractis.—Magnetical Observations.

Dr. WILLOUGHBY.—On the Mirage seen at Rhegium in Italy: and on Winds.—On the Lines of Longitude and Latitude.

POLITE LITERATURE, HISTORY, AND ANTIQUITIES.

Archdeacon BAYNARD.—Concerning the Instruction of Youth for the Universities.

Dr. LOFTUS.—Concerning Pere Simon's *Histoire Critique*.

Dr. HUNTINGDON.—On the Obelisks and Pillars of Egypt.

Dr. FOLEY.—On the contagious Communication of a strong Imagination.

Mr. KING.—On the Bogs and Loughs of Ireland.

Dr. MULLEN.—On 15 cinerary Urns, and Bones found together at Dontrilegue, County Cork, 3 Feet deep, each covered with a small Stone, and varying in Size from a Pottle to a Pint.

Dr. SMITH.—On cinerary Urns, found in the Caves at Warrington, and at Loughbrickland, in the County of Down.

MEDICAL SCIENCE,—INCLUDING ANATOMY, ZOOLOGY, PHYSIOLOGY, AND CHEMISTRY, ETC.

Dr. ALLEN MULLEN, or MOULIN.—On the human and comparative Anatomy, and the Structure of the Ear (several papers).—Experiments, consisting of injecting Fluids into the Thorax of Animals,—Experiments on the Blood.—On Digestion.—On the Mineral Waters of Chapelizod.—On Poisons.—On Runnet and Coagulum.—On the Organs of Respiration and Circulation, by removing a portion of a Dog's Lung, &c.—Dissections of a monstrous Kitten; and a Chicken with two Bills.—Dissection of a Man who died of Consumption.—Observations on the Serum.—On the Peculiarities of the Pulse.—Dissection of Hydatids attached to the Diaphragm.—De Alkali et Acido.—On Ligature of the Jugular Vein in a Dog.—On various Chemical Phenomena.—On Ovarian Disease.—On Ague.—Observations on Scurvy Grass(o).

(o) Mr. Dalrymple, in his admirable "Anatomy of the Human Eye," in writing of the vascularity of the lens and its capsule, says, that "Haller, in his Description of the Eye, quotes an *Englishman* of the name of Allen

Mr. W. MOLYNEAUX.—On the Phenomenon of double Vision.—On the petrefying Qualities of Lough Neagh.—Report on the Sirones or Acari.—The Dissection and microscopic Investigation of a Water Newt.—On the Circulation.—On the Pulvis Fulminans.—On the Connaught Worm.

Dr. T. MOLYNEAUX.—On the Anatomy of the Bat.

Lord MOUNTJOY.—On the Mode of Bleaching in Holland.

Sir W. PETTY.—Observations on Consumption.—On the Mode of examining Mineral Waters.

Mr. St. GEORGE ASHE.—On the Fossils and Petrefactions of Londonderry.—On a remarkable Case of Hæmorrhage(*p*).—On Hermaphrodisism.—Account of a Man in Galway who suckled his Child, and had Pendulous Mammæ.

Mr. R. BULKELEY.—Experiments on venous and arterial Blood.—Discourse on Mr. Boyle's Book on Human Blood.—On Divers Alkalies and Acids.—On the Dissection of a Bat.

Mr. PATTERSON.—Various Dissections of the Human Subject (*q*).—On Stone in the Bladder.—On Menstrua for dissolving the human Calculus.—On Cohesion between the Liver and Diaphragm.

Sir R. REDDING.—On the Lampreys of the River Barrow.

Dr. SMITH.—On the Waters of Lough Neagh.

Dr. WILLOUGHBY.—On Hermaphrodisism.

Dr. FOLEY.—Explanation of the Theory of Vision.—Experiments on Vegetation.—On Fossils.

Dr. HOULAGHAN.—On the Mode of discovering the Acidity of Liquors.—Description of a Human Kidney weighing 42 Ounces.—On the Tests for Acids.—On the Dissection of a monstrous Child with two Heads and three Arms.

Mr. KING.—On the Mineral Waters of Clontarf and Edenderry.

Dr. DUN.—On the Analysis of Mineral Waters.

Moulin, as the first observer, and in fact the discoverer of these long denied vessels." Mullen, or Moulin, was, however, an Irishman, and the diseases referred to are those mentioned at page v. of this preface.

(*p*) We are not quite certain with regard to the author of this paper. Birch merely says, "Mr. Ashe." The minutes of the British Museum, however, state that this paper was contributed by Thomas Ashe, Esq. We know not who this gentleman was—if a member of the Philosophical Society he would increase the number to 40.

(*q*) Human dissections were very rare in Dublin at that period. Mr. Pat-

Dr. NARCISSUS MARSH.—On Sounds and Hearing.—On the History and Classification of Insects.

Dr. SILVIUS.—De Acido et Urinoso.

Mr. ACTON.—On the Scoter Duck found at Ireland's Eye.

During the remaining years of the seventeenth century, the unsettled state of Ireland precluded the possibility of literary enterprise or scientific investigation. From the following paragraph in the Diary of Archbishop Marsh, it would appear that an attempt was made to revive the Society in 1693. On the 26th of April, in which year he writes, "This evening, at six of the clock, we met at the Provost's lodgings in Trinity College, Dublin, in order to the renewal of our philosophical meeting, where Sir Richard Cox (one of the Justices of the King's Bench), read a geographical description of the *City and County of Derry*, and of the County of *Antrim*, being part of an entire *geographical description* of the whole *kingdom of Ireland*, that is designed to be perfected by him; wherein also will be contained a *natural history* of Ireland, containing the most remarkable things therein to be found, that are the products of nature. Upon his reading this essay he was admitted a fellow of this Society, together with Dr. John Vesey, Lord Archbishop of Tuam; Francis Roberts, Esq., younger son to the Earl of Radnor, some time Lord Lieutenant of Ireland: O Lord, grant that in studying thy works, we may also study to promote thy glory (which is the true end of all our studies), and prosper, O Lord, our undertaking, for thy name's sake"(r). The manuscript volume in the British Museum re-

terson's communications to the Philosophical Society were founded upon the examination of the body of a malefactor procured by Dr., afterwards Sir P. Dun, to make a skeleton of. Mr. W. Moyneaux says he "was constant at the dissection, and nothing curious was done, but only the surgeons and physicians that were present spoke at random as the parts presented themselves." This is the first notice of a dissection in Ireland that we have seen recorded. See *University Magazine*, vol. xviii. p. 479.

(r) The Diary of Archbishop Marsh, already cited—*British Magazine*, for August, 1845.

commences at this date, and informs us that the members of the old Society who met on this evening, or, as they are styled, ‘the members before the warre,’ were the Archbishop of Cashel, the Provost, Dr. Willoughby, and Sir Cyril Wyche. At the meeting of the 3rd of May, Mr. Cuff and the Bishop of Cork rejoined the body, and papers were read by Sir R. Cox, describing Judland, and Sir Cyril Wyche, on Varo’s Book, “*De Lingua Latina*.”—Dr. Thomas Molyneaux, Mr. Edward Walkington, and Mr. Bartholomew Van Humrigh, were proposed at this meeting, and admitted on that of the 10th, when Sir R. Cox finished his History of Judland; read some papers on Ireland, and on the bringing of the Society into its ancient model, &c. On this evening the Hon. Francis Roberts was elected President; Dr. Charles Willoughby, Secretary, and Francis Cuff, Esq., Treasurer.

“Bound up with this minute book,” writes my informant, Mrs. Lee, “are several copies of a letter, which I judge to be of the same date, and of which the following is a copy :

“‘SIR,—The Dublin Society is again revived, and they have ordered me to give you notice of it, and desire me to renew their correspondence with you. We are as yett but very young, and therefor cannot hope to make any suitable returne, but must have a little time to settle, after the disorder the warr has put every thing into here. Mr. Roberts is chosen President, and our Society increases by new elections, so that we may expect it may be considerable, and then there may be something fit to be communicated from,

“‘Sir, your most humble Servant,

“‘OWEN LLOYD,’—F.T.C.D.

“A considerable hiatus occurs after this entry, but it appears that in the year 1707, an attempt was made to re-establish the Society, but its success was not of any long duration, and this MS. contains a register of the philosophical papers read before the Society, from August 5th, 1707, to March 11th, 1708. The Earl of Pembroke, then Lord

Lieutenant of Ireland, presided over the Society at this revival(s)." Addit. MSS. 4812.

The Minutes do not inform us who the members were that attended this reunion, but the following is a list of the papers read during that period.

The BISHOP OF CLOGHER.—A Letter from, to Dr. Molyneux, concerning an odd Hare's Tooth; afterwards accounted for by Dr. Molyneux.

Mr. DENHAM.—On the Spots on the Sun.

The ARCHBISHOP OF DUBLIN.—A Discourse on measuring Land.—A Letter on a fiery eruption from the Bowels of a dead Cow.—Thoughts for improving the Harbour of Dublin(t).—Scenography of an Engine to force Water out of a Quarry, &c.

Dr. THOMAS MOLYNEUX.—On Mines and Minerals within the Kingdom of Ireland.—Account of a petrefied Honey-Comb, and an Essay on Antiquities.

Mr. W. MOLYNEUX.—On Mercurial Phosphorus.

Dr ROBINSON.—Concerning the Density of the Atmosphere.

Mr. WARING.—Account of the Occurrences of a Storm.—Letter to Dr. Molyneux concerning the Cross-Bills.

Mr. E. CROW.—Account of Lightning near Tuam.

Mr. (afterwards Bishop) BERKELEY,—A Discourse on Infinities.—An Inquiry whether the Figure of the Earth be spheroid.

Mr. NORMAN.—A letter on Barnacles.

These Minutes appear to have been in the possession of Sir H. Sloane, and were by him presented to the British Museum.

Subsequently the Philosophical Transactions continued to be the medium of communication between the medical profession in Ireland and the public; thus

In 1696 Mr. Robert Vans, of Kilkenny, published, in the Philosophical Transactions, an account of an extraordinary dew.

In 1699 Dr. Nathaniel Wood, of the same city, wrote an

(s) Collection of Notes on the early History of Science in Ireland, by James Orchard Halliwell, F.R.S.—Proceedings of Royal Irish Academy, 1841, p. 66.

(t) This subject subsequently engaged the attention of the Physico-Historical Society of Dublin, about which Mr. Gabriel Stokes made a communication in 1744.

Essay on the poisonous Effects of Hemlock, and Dr. T. Vaughan followed on the same subject, shortly after.

During our own time, the members of the medical profession have advanced science and literature, and perhaps we might also add art, more than those of either of the other two learned professions; but at the precise period to which we refer (the seventeenth and first few years of the eighteenth century), the most generally learned Irishman, and the person who did most to advance the literary interests of this kingdom, was Sir Thomas Molyneaux, professor of the practice of physic to the University of Dublin, and the first medical baronet ever created in Ireland^(u). From 1683 (during which, and the three following years, he was the foreign correspondent of the Royal Society of London, and the Philosophical Society of Dublin), till about 1728, when he retired from practice with a splendid fortune created by his talent and professional industry, he was allowed to be one of the most distinguished philosophers in Europe. There was scarcely a department of letters with which he was not well acquainted and to which he did not contribute; his anatomical and physiological writings, and his various and extensive medical contributions, prove him to have been entitled to the encomium passed upon him by Archbishop King, of being "the most eminent physician in this kingdom, yet not more remarkable for his skill in his art, than for his piety and virtue." His researches into the early history of this country, in his *Essays on the Round Towers—Danish Forts—Sepulchral Monuments,—Cinerary Urns, and other antiquities*, are already well known to the learned. He was not only a man of profound scientific and great professional acquirements, but also a classic scholar of ability. In general the taste for classic lore is left at the portal

(u) The next medical baronets created in Ireland, were Sir Philip Crampton and Sir Henry Marsh, the latter of whom is the lineal descendant of Molyneaux: the interval between the two creations being 109 years. Our distinguished countryman, Sir Hans Sloane, was the first physician ever created a baronet (1716), but he was an English baronet.

of the University, more especially by those who enter immediately on the duties of active professional life. In his instance, however, this does not seem to be the case, and his "Thoughts concerning the ancient Greek and Roman Lyre," and his explanation of an obscure Passage in one of Horace's Odes, published by the Royal Society, and so highly complimented in the *Nouvelles de la Republique des Lettres*, attest the depth of his classic taste and reading.

The high eminence to which he attained in science and literature, and the esteem which he earned for the medical profession in this city, as well as the love of country which characterized all his pursuits, and gave a tone of patriotic enthusiasm to all his writings, justly entitle him to the appellation of the Father of Irish medicine.

Independent of his earlier zoological and mathematical communications to the Royal Society, and those Essays upon Polite Literature, &c., published in the Philosophical Transactions, the following may be enumerated as his chief medical and physiological publications, which appeared in the periodic literature of that time.

An Essay concerning Giants.—Essays on Stone in the Bladder.—On the Influenza.—On the Short Fever of 1688.—Anatomical Description of the Aphrodite "*Scolopendria Marina e Mare Hibernico*."—On the Vesiculæ Seminales.—Description of the Museum Zeylonicum.—Essay on the Irish Elk (*Cervus Megacerus*).—On the Connaught Locust (*Melalontha Vulgaris*).—On the Irish Greyhound, (*Canis gravius Hibernicus*)(*v*).—On Elephant's Teeth.—And also several Botanical Essays, &c.

Cotemporaneously with Molyneaux, we have but little to record of the periodic writings of other Irish medical men, except Mr. Thomas Proby(*w*), the principal surgeon in Dublin at

(*v*) See the animal remains in the museum of the Royal Irish Academy, collected by Messrs. Petrie and Wilde, at Dunshaughlin—also Proceedings R. I. A., vol. i. p. 420.

(*w*) Mr. Proby was the ancestor of the present Carysford family. He was

that time, who extracted a bodkin from the female bladder ; but even that case was brought before the notice of the Royal Society by Molyneaux.

In 1720, Dr. John Rutty published an Account of a Case of Spina Bifida in the Philosophical Transactions.

In 1722, Mr. Peter Derante, chirurgion, of Waterford, gave an account of the amputation of the shoulder joint, by the sloughing of a portion of the scapula and head of the humerus, from mortification.

In 1731 Dr. Thos. Madden described a case of poisoning of two females from simple laurel water, with experiments ; and in 1736 he detailed the dissection of a person who died from having taken two ounces of crude mercury, &c.(*x*)

In 1734 Mr. John Ferguson, of Strabane, published an account of the extirpation of a portion of the human spleen.

In 1739 Dr. John Rutty wrote a Dissertation on Laurel Water.

We have no account of either Keogh, O'Connell, Rogers, Robinson, or Hussey, who flourished and wrote about this period, having published anything in the Transactions of learned Societies.

The Royal Dublin Society was founded in 1731, and incorporated in 1749. Its aim was, however, chiefly of an agricultural, industrial, and artistic nature, yet its noble garden at Glasnevin, should be enumerated among the medical institutions of this country. It is much to be regretted that the veterinary school and museum, the latter collected by Mr. Percival of London, has lately been allowed to fall to the ground, and its professorship to remain unoccupied since the death of Mr. Peel.

“Chirurgion-General,” and occupied a house in the Phœnix Park, on the ground belonging to which the Royal Infirmary now stands. It was for depriving him of this that Swift made so fierce an attack on Lord Wharton—See Swift's “Short Character of His Excellency, Thomas Earl of Wharton,” 1710; Roscoe's Works of Swift. London, 1841, vol. i. p. 352.

(*x*) Dr. Thomas Madden, was elected Fellow of the College of Physicians,

On the 14th of April, 1744, a number of noblemen and gentlemen established themselves as a society for promoting an inquiry into the present and ancient state of the several counties of Ireland, which, on the 15th of the May following, was, at a general meeting of the members, given the title of the *PHYSICO-HISTORICAL SOCIETY OF IRELAND*. This body included all the men of science and literature in Dublin at that period: their first President was Lord Southwick; Vice-President, Edward Barry, M.D.; the secretaries were appointed for each province, but James Ware was at that time the working man of the society. Among its original members we find the names of Harris, Rutt, Ledwich, and other distinguished antiquaries of that period; yet while the main objects of the Society were of an historical and antiquarian character, with a view to a general survey of this country, as originally proposed by Petty (a project attempted to be put in execution at various periods from his day till concluded in our own under the able superintendence of Capt. Larcom) (a),

in 1728 in the room of Dr. Molyneux, and President in 1731. In the Manuscript collection of Trinity College, we find an interesting Latin letter of his on the operation for cataract.—MSS. I. 4, 22.

Dr. John Madden is named in the charter of the College of Physicians in 1692, along with Drs. Molyneux, Ralph Howard, Willoughby, Dun, and Stevens.

(a) While examining the Minute Book and the Proceedings of the Physico-Historical Society in the manuscript collection of the Royal Irish Academy, for the purpose of this inquiry, we were struck with the zeal and enterprise toward the publication of county histories, which seemed to actuate the men of learning in Dublin at that period. Under its auspices were produced Smith's Histories of the Counties of Cork, Waterford, and Kerry, as well as Wright's Louthiana;—the History of the County of Down, by Harris, and Rutt's History of the County of Dublin, were undertaken at the suggestion of this body. The Histories of Fermanagh, Monaghan, and the City of Dublin, were likewise begun, under its auspices, by Dr. Jenkins, the Rev. Dr. S. Madden, and Messrs. Skelton and Lodge: and the latter completed by Harris: Simon's Essay on Irish Coins was also published by this Society. When will the noble intentions of this body be fulfilled? We had hoped, when we saw the splendid Memoir on Templemore produced by the Ordnance Survey under the general direction

still the interests of the medical and chemical sciences were not neglected, and Drs. Barry, Rutty, Lionel Jenkins, John Farrell, Rellan, Roberts, and Mr. Joseph Butler, surgeon, played a very conspicuous part in the proceedings of this body; and with their labours, we have here more particularly to deal. At this period, there was a great desire among the learned to investigate the mineral springs of this country, and the medical men connected with the society under consideration, produced several memoirs on that subject, the final result of which was Rutty's book on the mineral waters of Ireland.

In the spring of 1744, Dr. Jenkins read a treatise "On Birds and Beasts which were once common in this Kingdom, and particularly in the County of Dublin, some of which are now quite lost, and others rare to be met with," and also a short paper on the extinct animals of Ireland generally: neither of which have come down to our time. Mr. Isaac Butler, surgeon, botanist, astrologer, and almanack maker, appears to have been employed by the Society, and received grants of money at various times for making inquiries "after rare plants, &c.," and travelling "in search of sim-

of Captain Larcom—and the antiquarian department by Mr. Petrie, ably assisted by Messrs. O'Donovan, Downes, Curry, and other distinguished Irish scholars and men of science, that a better day was brightening upon us—but, owing to the overstrained economy exhibited toward this country, we fear the Derry Memoir and Captain Portlock's Geology of the County of Londonderry, and Part of Tyrone, and Fermanagh, must remain specimens in our libraries and museums, along with those fragments of county histories produced by the Physico-Historical Society, to be examined by the curious in another age, when it is probable that the magnificent collection of materials, procured with such industry and at such great expense, which now remains at Mountjoy Barracks, will be published by the Archæological Society of the twentieth century, as that of the nineteenth is about to do with some of those collected in the days of Petty. We cannot conclude this note without adverting to the fact of the geological portion of the Irish Survey being now placed under the direction of our esteemed friends Sir Henry De La Beche, and Professor Forbes. It could not be in abler hands, but if the Trigonometrical and Boundary Survey of this portion of the United Kingdom was considered necessary to be undertaken and completed distinct from that of Great Britain, we cannot

ples, fossils, and such other curiosities as are mentioned in the Society's proposals." Butler likewise made a catalogue of plants and minerals found in various parts of this kingdom, which was recorded by the Society, who also appear to have had a Museum where objects in natural history, cinerary urns, fossils, minerals, manuscripts, and an *Hortus Siccus* of Irish Plants, were preserved: which collection, probably, merged into that of the University, or perhaps the Dublin Society.

Dr. Rutty produced at the Society's meetings samples and analyses of the Waters of Scarborough, Kilbrew, in the county of Meath, a chalybeate found near Athlone, and the various mineral springs in the county of Dublin; and Mr. Thomas Hoare, an apothecary in this city at that time, was paid for their analyses. Catalogues of the Fauna of the county of Dublin were likewise made, as also specimens of these presented to the Society, and preserved in their collection.

The Physico-Historical Society does not appear to have existed longer than three years. The last entry in the Minute Book, preserved in the library of the Royal Irish Academy, bears date the 17th of September, 1747.

The medical members appear to have been the most industrious, as well as to have remained longest attached to this body, and medical papers were, for the last year, the most numerous. Several efforts were made to revive this body, the last of which ended with the death of Rutty, in 1775. We have reason to believe that abstracts of some of its papers were published in Faulkner's Newspapers(*b*), and also the Rev. Mr. Droz's Journal, the first *literary* periodical that ever appeared in this country, and which was started the same year as the Physico-Historical Society.

understand why its geological features should not be likewise considered separately, except that by including them under one general head a plausible excuse is offered for thus quashing the memoir of the Irish Survey altogether.

(*b*) The Dublin Journal, 1744,—and also The Monitor or British Freeholder, 1757,—Dublin, printed by George Faulkner, in Essex-street.

About 1750 there existed a Botanical Society in Dublin, which collected and arranged a catalogue of Irish plants. This catalogue was afterwards produced at the first meeting of the Medico-Philosophical Society, by Dr. Rutty(c).

In 1756, several of the medical profession in Dublin formed themselves into a society for the pursuit of medical, zoological, and philosophical inquiries, under the name of the MEDICO-PHILOSOPHICAL SOCIETY. The original members were Drs. Rutty and Smith, the Rev. Mr. Caldwell, and Messrs. Dowling and Johnston, Surgeons; and shortly afterwards Dr. Knox and Surgeon T. Wetherel were added, the number being at that time limited to seven. It does not appear that there were any Presidents, but from its commencement to 1784, Messrs. Downing and Caldwell, and Drs. Smith, M'Bride, Harvey, Saunders, and Moody, filled the office of Secretaries. Three volumes of the Minutes of this body have come down to our time, the first is in the Royal Irish Academy, and a copy of it, along with the two others, at present belong to the library of the Association of the College of Physicians. From these and other sources our learned friend, Dr. Aquilla Smith, has afforded us much interesting information relating to this body(d), but of which we avail ourselves only so far as it bears on periodic medical literature. On the 7th of April, 1757, John Smith, a Quaker, by trade a weaver, and successor to Isaac

(c) The writers on the Irish Flora appear to have been very deficient in their knowledge of the labours of their ancestors, prior to the middle of the last century, except those of Threlkeld and Keogh.

(d) The readers of the Dublin Journal of Medical Science, and the profession generally in this country, are already well acquainted with Dr. Aquilla Smith's contributions to the History of Irish Medicine (See vol. xix. p. 210, and vol. xix. p. 81.) We know no gentleman so highly informed on these subjects as Dr. Smith; we wish we could induce him to resume his pen, and afford his friends and the profession the benefit of his extensive researches. We have assured ourselves, from a careful perusal of the minute book in the Royal Irish Academy, that a most interesting and valuable series of communications could be compiled from the records of the Medico-Philosophical Society.

Butler, astrologer, almanack maker, and botanist, of whom we have already spoken at p. xxiv, was appointed Satellite (so he is designated) to the Society, for the purpose of producing such plants for the future, as happen to be in flower in the vicinity of Dublin, at the times of the meetings of this Society.

At first this Society appears to have partaken somewhat of a social character, the members dining at each other's houses on the days of meeting, and in several of the correspondences it is denominated "The Club." In 1757 it was resolved that a book called "the Repository" should be provided for the purpose of preserving the original communications, to save the trouble of transcribing them. This most interesting and valuable record still exists in the library of the Royal Irish Academy, and it is to us a matter of both surprise and regret that some industrious member of that body has not long ere this investigated and described the contents of this folio book, which consists of 230 articles, the great majority of which are original communications, by the most distinguished physicians and surgeons in this kingdom of that day, among which we may mention those written by Rutty, M^r Bride, Cleg-horn, Smith, Wetherel, Egan, Clossey, Archibald Hamilton, Patrick Bride, Spar, Archer, Silvester O'Halloran, Pringle, Doyle, Purcell, Mossom Wye, Hanly, Shears, and Rainey(e).

(e) Dr. John Rutty appears to have been the mainstay of this body, which he used facetiously to style "the Medico-Politico-Physico-Classico-Ethico-Puffical Society;" his papers, which are mostly on the subjects of mineral waters and animal chemistry, &c., amounted to 99 of the 230 recorded. Dr. David M^r Bride was author of "A Methodical Introduction to the Theory and Practice of Physic," 4to. London, 1772, being the substance of a Course of Lectures, delivered in Dublin. He also wrote "Experimental Essays, &c." Cleghorn was Professor of Anatomy to the University.

Thomas Wetherel was a surgeon in Doneraile, and Dr. Egan, a physician in Galway. Samuel Clossey, M.D., was physician to Mercer's Hospital in this city in 1761. The year following he emigrated to America, and was one of the first lecturers on anatomy in New York. (See Dub. Jour. vol. xvii. p. 218.)

Silvester O'Halloran was a distinguished surgeon and oculist in Limerick.

What gives increased value to those communications, most of which are in the handwriting of their authors, is, that we read in the Minute Books, "that no communication should be finally entered on the minutes until three meetings passed over, in order that every article worth preservation may be approved of by all the members," and, adds Dr. Aquilla Smith, "the papers were expected to be written clearly, candidly, and concisely, and all hypothetical disquisitions, controverted points, and everything that could only contribute to display the erudition of the writer, were to be rejected; neither was the style or language of any contribution to be criticised." We would willingly, did space permit, present our readers with the contents of some of the most valuable of these papers, but we must reserve that for another occasion.

The last meeting of this Society, recorded in the minute book, was held on the 7th of October, 1784, but the last date in the Repository, attached to a paper of Dr. Hanly's, is March 2, 1772.

In the *Anthologia Hibernica* for April, 1793, we read that on the Anniversary Meeting of the Dublin Medical Society, the officers for the ensuing year were elected; this appears to have been a continuation of the Medico-Philosophical Society. In 1802 the members only amounted to fifteen, and in 1809 the books belonging to it were distributed among them. The Society, however, continued on till about twenty-five years ago, and one of the last members of it was the late Dr. John Beatty. During the present century it partook more of the social than the scientific character.

Dr. Patrick Brown(*f*), a distinguished Irish physician and naturalist, whose merits have been too much overlooked

and author of "A Treatise on the Glaucoma or Cataract," (Dublin, 1750, &c.), as well as other essays and papers on various scientific subjects. Dr. Purcell was the chief physician in Dublin at the close of the last century.

(*f*) Dr. P. Brown was a native of Crossboyne, county of Mayo, and born about the year 1720; he studied medicine in Paris, and afterwards at Leyden,

by scientific writers, published in Exshaw's Magazine for June, 1774, "Catalogues of the Birds of Ireland, whether Natives, casual Visitors, or Birds of Passage, and of the Fishes observed on our Coasts, and in our Lakes and Rivers."

About the year 1792 there appears to have existed a literary society in Limerick, in which Silvester O'Halloran was the leading member, and read several papers on medical subjects, some of which are published in the *Anthologia Hibernica*. At the same time, and for some years prior to it, a few papers upon medical subjects were published by Irishmen in the *Philosophical Transactions*.

The Society called the Paleosophers, established in the University about the year 1782, chiefly devoted itself to the investigation of ancient learning, and has not left anything that we can discover behind it; but in three years afterwards, Dr. Percival, then the most rising chemist in this country, established the Association of Neosophers, for the investigation of science and modern literature, into which, in a short time, the Paleosophers merged. From these subsequently sprung, in 1782, the ROYAL IRISH ACADEMY, which was chartered

where he graduated, and where he commenced a correspondence with Linnæus: he practised in London for about two years, after which he removed to the West Indies, and resided for several years at Antigua and Jamaica, of which islands he published the most valuable Civil and Natural History that had then appeared; a work which has scarcely been surpassed even at the present time. He furnished Sir Joseph Banks with most valuable catalogues, and made large collections of the birds, shells, and plants of the West Indies. Moreover, to his exertions are we indebted for having the port and capital of Jamaica changed from Spanishtown to Kingstown. On his return to Europe, he devoted his talents and energy to the elucidation of the natural history of his native country; and besides the periodic writing specified in the text, we are informed by his biographer in the *Anthologia Hibernica* for January, 1793, that in 1788 he prepared for the press a "*Fasciculus Plantarum Hibernicarum*," enumerating chiefly those growing in the Counties of Mayo and Galway, written in Latin, with the English and Irish names of each specimen.—Where is this valuable manuscript?

in 1786, for Science, Polite Literature, and Antiquities. Medical men have ever formed some of the most prominent and industrious of its members, and at one period they almost entirely ruled its councils: and in the twenty volumes of its Transactions will be found Essays and communications, on subjects connected with medicine or its collateral branches, by the most distinguished Irish philosophers during the last seventy years, among whom we may mention the names of Kirwan, Percival, Macartney, Clarke, Dickson, Crumpe, and Wallace, as having passed from amongst us, besides those already enumerated in the foregoing pages; and the writings of Drs. Graves, Apjohn, and Kane, still attest the talent and industry of our living medical authors. We now, however, approach a period when our labour of compilation and research becomes lightened by its approaching our own time, and by the works to which we have occasion to refer being accessible to most of our readers.

The first medical periodical started in Ireland was “*The Dublin Medical and Physical Essays, comprising Dissertations and Details of Medicine and Surgery, with their collateral Branches of Science*,” a quarterly journal of about one hundred pages, octavo, the first number of which appeared in March, 1807. It was edited by Drs. F. Barker, S. B. Labatt, the late Dr. H. Ferguson, and our distinguished countryman, the late Mr. Todd. The plan of this journal was somewhat similar to our own, consisting of original communications, reviews, and, “a retrospective review of the progress of medical and physical science, more concise than usual.” Medical politics were very rarely admitted, although “the projected plan of reform,” was not altogether excluded from its pages. It survived but eighteen months, having only issued six numbers(*g*).

(*g*) The few copies of this rare publication which are now in existence, are generally found bound together, forming a volume and a half, the first consisting of 410, and the latter of 198 pages.—Dublin, Gilbert and Hodges, Dame-street. 1808.

It appears to have been resigned as much from the apathy that then existed on the subject of literature of every description, in Ireland, as from any other cause. Prior to 1800 it is well known that Dublin was, for its size, one of the most publishing capitals, in Europe. Among the many causes which led to the decay of literature in this country, may be mentioned the extension of the English Copyright Act to Ireland, for before the Union, every English publication of merit was reprinted in Dublin, in the same manner as our works have been of late in Paris, and still are in America. Being the property, and consequently published at the risk of the Editors, who do not appear to have understood much of the art of book-making, it was not deemed by them prudent to continue it longer, and the last number was published in June, 1808.

This is now a very rare work, and records many interesting circumstances connected with medical science in Ireland at that period. Among its most remarkable original papers, the first number opens with "An Essay on an improved Method of performing the Operation of Lithotomy," by the present father of the medical profession in this city, Mr. R. M. Peile, at that period one of the most dexterous lithotomists in Great Britain. This short paper, which is characterized by a force and purity of language, and an elegance of diction, not often met with in medical literature of the present day, was intended to explain the use and mode of application of instruments which have since been usually known as "Peile's conductor and lithotome." The original instrument was invented by Mr. Daunt, an eminent surgeon in this city, in 1750, for which, in 1754, he received the thanks of the Royal Academy of Surgery in Paris. Thirty-two years afterwards, William Dease, one of the most distinguished surgeons of this country, published some remarks on the different methods of cutting for the stone, wherein he gives us an account of this instrument, as

modified by himself; and it was finally brought to perfection by Mr. Peile(*f*).

To this publication (*The Medical and Physical Essays*) the late Drs. Whitley Stokes, Percival, Todd, Murray, Pentland, Ferguson, Mills, and Moriarty, contributed, as well as Sir Philip Crampton, and Messrs. Carmichael, Labatt, Douglas, Harty, Duncan, and Breen of this city(*g*).

In the fifth number we find an address delivered to the Medical Society of Trinity College, by its Vice-president, Dr. John Murray, in May, 1803. This Society was discontinued by order of the Board, "to guard against the introduction of any political or metaphysical discussion, that had been found detrimental to another society" (the Historical) "in the same place."

During the present century, the only papers published in the Philosophical Translation were by Messrs. Chenevix, Donovan, Jacob, and Macartney(*h*).

(*f*) This tract of Mr. Dease's is bound up with his Observations on Hydrocele, and in the copper-plate in which he figures the instruments of Daunt, are represented two of the largest stones that have ever been recorded as having been removed from the human bladder; one of these weighed six ounces, the other no less than fifteen and a half! It would appear to have completely filled the bladder, and was removed by Mr. Morris, one of the surgeons of Mercer's Hospital, with Mr. Daunt's instrument, in 1773; the patient is said to have perfectly recovered.

(*g*) Owing to a curious mistake Sir Philip Crampton's interesting communication—the Discovery of a New Muscle in the Eyes of Birds, &c.—which was presented to the Royal Society by Sir H. Davy in 1811—was not published by that body. Sir Humphrey's letter, stating that the observations and experiments of the author had been repeated with perfect success by some of the best anatomists in London, now lies before us. Shortly after the paper was read, Mr. Knox, wishing to give it immediate publicity, forwarded an extract of it to one of the scientific journals of the day—this prevented its being published in the Transactions of the Royal Society, as was intended by its author.

(*h*) The Dublin Medical and Physical Essays, besides original articles by several other Irish physicians and surgeons in addition to those already mentioned, likewise contains "A systematic Catalogue of rare Plants found in Ireland" in 1806, by T. J. Mackay, A. L. S., Curator to the Botanic Garden of the University.

A Medico-Chirurgical Society held its meetings in the old College of Surgeons, in Mercer-street, before 1805 ; but we have no record of its proceedings.

The Kirwanian Society, founded in 1812, for the investigating of subjects connected with chemistry, mineralogy, and natural history, and called after our distinguished countryman, Richard Kirwan, appears to have survived but a short period, and has not left any literary remains after it. In 1816 its members numbered 40.

In 1815, an institution called the Medical Society was established in Dublin, consisting of both practitioners and students. The *Newry Magazine* (vol. i. p. 284, and vol. iv. p. 301), informs us that the objects of this Society were twofold — “ first to collect original information in all branches of medical science, with a view to publication ; secondly, to improve the junior members of the Society, by their writing disputations on medical subjects, and their publicly defending them.” At the conclusion of the session a donation

Should we include the *Milesian Magazine* of the eccentric but talented John Brennan, the Wrestling, Turpentine Doctor, or as he subscribed himself, “ Prince of Idonagh, King of all the Wrestlers of all Ireland,” among the periodic literature of Ireland? Brennan has long since gone to his rest, and carried with him much of the classic wit, scorching sarcasm, and apt drollery which characterized many of our distinguished countrymen at that period. Although most of his cotemporaries, and those against whom his swiftest shafts were aimed, have also been gathered to their fathers, it is possible that the *Milesian Magazine*, at present scarcely to be met with, would, if republished, be received at present with nearly as great a gusto as it was in 1812. There are, however, two subjects connected with this strange periodical and its author to which we would here refer our readers, and for which a debt of gratitude is due ;—his introduction of the more general use of turpentine in puerperal and other inflammatory diseases ; and his able letter to Dr. McDermott (the Prince of Coolavin) on the subject of the Irish manuscripts (many of which were, we believe, medical) carried out of this country by Dr. Charles O'Connor, and now in the collection of the Duke of Buckingham at Stowe.

The *Milesian Magazine*, or *Irish monthly Gleaner*, Dublin, 8vo., printed and published by W. McDonald, 1812–1825 ; it appeared at irregular intervals ; there were only sixteen numbers published.

of twenty guineas was presented to the Society, by the professor of Anatomy in the University (Dr. Macartney), for the purpose of rewarding the best essay that should be sent to the Society before the 1st April, 1816, on the following question: "What differences exist between venous and arterial blood, with respect to chemical composition and vital properties:" the answers to the questions were to be supported by new and decisive experiments. What became of this Society or its proceedings we have no means of determining, but the books belonging to it are deposited in trust in the library of Sir Patrick Dun's Hospital.

Several other medical societies, chiefly, however, of a social nature, existed in Dublin during the first twenty years of the present century, but as they have not published either their Proceedings or Transactions, they do not come within the legitimate province of this investigation(*i*).

During the entire of the present century communications were occasionally made to the London and Edinburgh periodicals by Irishmen, but having from 1807 a periodic literature of our own, we must confine our observations to those that were published in this country.

In 1815, "some professional gentlemen attached to extensive hospitals in this city, formed the design of publishing annually, medical and surgical reports of the chief diseases falling under their observation, together with such incidental notices of facts and doctrines in relation to pathology, as might tend to the improvement of medical science." Accordingly, in 1817 was published the first volume of "*The Dublin Hospital Reports and Communications in Medicine and Surgery*," and the fifth and last appeared in 1830(*j*).

The first volume was edited by Drs. Cheyne, Edward Percival, and Colles and Todd; but the main projec-

(*i*) To one of the last of these the late Professor Todd was wont to apply the epithet of the Phil-Œsophageals.

(*j*) The Dublin Hospital Reports. Dublin, 8vo. vols. i. ii. iii. and iv. Hodges and M'Arthur, 1817 to 1827; vol. v. Hodges and Smith, 1830.

tor of the undertaking was Cheyne, who to his great sagacity and vast medical acquirements united that activity of mind and untiring energy and perseverance, as well as the art of eliciting the knowledge and bringing forth the powers and acquirements of others, together with a stern honesty of purpose, and a suavity of manner—qualities rare, but very requisite in the editor of a periodical. The second, third, and fourth volumes appeared under the auspices of Messrs. Colles and Cheyne, and the fifth was committed by the latter into the hands of Dr. Graves.

The publication of these valuable volumes, inferior to none that have ever appeared of a like nature, is comparatively of such recent date, and their contents so well known, even to the students of medicine of this country, that we feel it would be a work of supererogation to advance a single sentence in their praise: the names of Crampton, Marsh, Cusack, Graves, Stokes, Wilmot, Carmichael, and Kennedy, together with those of O'Beirne, Beatty, Adams, Johnston, Montgomery, Apjohn, Law, Cuming, Jacob, Porter, and Kirby, as also of our late distinguished countrymen, Cheyne(*k*), Colles, Todd, M'Dowell, and Percival, now no more, were sufficient to stamp its scientific and practical character.

In 1816, several of the Fellows and Licentiates of the College of Physicians formed themselves into an association composed of Dr. W. Brooke, President, Drs. A. Jackson and W. Stoker, Vice-presidents, Dr. R. Reid, Secretary, and twenty-nine members, at the meetings of which communications were made of “medical and philosophical intelligence, hospital reports morbid histories, and other original papers(*l*),” chiefly, however, with the view to the improvement of pathological science.

(*k*) Dr. Cheyne, was, it is true, a Scotchman, but having practised in this country for such a length of time, and become identified with our School of Physic, and naturalized in the land of his adoption, we may fairly include him among our eminent Irish physicians.

(*l*) Transactions of the Association of Fellows and Licentiates of the King's and Queen's College of Physicians. 5 vols. Dublin, 8vo. Cumming, 1817 to 1828.

In the following year, and nearly contemporaneously with the Dublin Hospital Reports, was published the "*Transactions of the Association of the Fellows and Licentiates of the King's and Queen's College of Physicians in Ireland*," five volumes of which appeared at intervals up to 1828, containing a most valuable collection of original papers and reports by some of the most distinguished physicians in the Irish metropolis at that time, among whom may be mentioned, in addition to those enumerated as contributors to the Dublin Hospital Reports, the late Drs. J. Crampton, Brooke, and Mills.

In 1830 a new series was commenced, of which one part appeared under the title of "*The Dublin Medical Transactions (m)*," containing papers by Drs. Corrigan, Collins, Crampton, Beatty, J. Ferguson, Montgomery, Clinton, Harty, Law, and Osborne, &c.; but by far the most valuable communication consisted in the Report of the Cork-street Fever Hospital, by the late Dr. John O'Brien. This gentleman died while these papers were passing through the Press(n).

Neither the Dublin Hospital Reports nor the Transactions

(m) The Dublin Medical Transactions, a Series of Papers by Members of the Association of Fellows and Licentiates of the King's and Queen's College of Physicians in Ireland. New series, vol. i. part 1, Dublin, 8vo. J. M. Leckie, 1830. In point of typography, &c. this volume exceeded any of its predecessors or cotemporaries.

(n) John O'Brien, M.D., was a Scholar of Trinity College in 1803. He was appointed an assistant surgeon to the artillery on the 27th of May, 1809. In April, 1810, he was induced by his brother, a well-known resident Master in the University, to retire from the service and settle in Dublin, where he was appointed to the Sick Poor Institution in Meath-street: and subsequently he was elected one of the physicians of the Cork-street Fever Hospital, an institution to which he devoted much time and labour, and his reports on which are, we have no hesitation in pronouncing, the very best that have yet appeared, both in matters of arrangement, statistical accuracy, learning, and practical importance. These reports, as well as one previously published of the Sick Poor Institution for 1817, will be found in the Transactions of the Medical Association for the years 1814, 1819, 1826, and 1829, as well as other articles from his pen in the same publication. In 1822 he wrote his "*Observations on the acute and chronic Dysentery of Ireland*," a work exhibiting much shrewdness of observation, as well as vast learning

of the Association have since appeared, their place having been supplied by the *Dublin Journal of Medical and Chemical Science*, which came out shortly after, and twenty-eight volumes of which have already appeared, with the new series of which we now present our readers.

In 1825, the want of a periodical of a more extended scientific character than either of the two practical publications to which we have just alluded, was very generally felt by the learned of this city, and "*The Dublin Philosophical Journal and Scientific Review*," the first numbers of which gave promise of being beyond all parallel the very best publication of its kind that had appeared at the time in Great Britain, was started(o).

"Should the measures which are adopting for the development of the natural resources of Ireland," say the editors in their advertisement, "meet with ultimate success, as we have every reason to hope, from the vigour and zeal with which they are pursued, a change may be effected in this country, of which no one can now foresee the extent. In the hope, therefore, that any light which can be shed on these subjects, interesting as they are even in a speculative point of view, may derive additional value from the illustration of their practical tendency, the editors of this journal mean to embrace every opportunity of directing the attention of their readers to matters connected with the local interests of Ireland, and should they, by their exertions, be found to have contributed any aid, how-

and research, particularly on the early history of the epidemic in this country. He was a Censor, and afterwards President, of the College of Physicians, subsequently he became Librarian to that body. In 1827 he was a candidate with Dr. Graves for the professorship of the Institutes of Medicine, a subject on which he afterwards delivered lectures in Mr. Wallace's school, in Moore-street: he published an introduction and syllabus to this course. He died in December, 1845, aged 64. He was a highly educated physician, and a classical scholar of no mean attainments; and his manners and habits were remarkably mild and retiring. As a practitioner he was scarcely known in this city.

(o) *The Dublin Philosophical Journal and Scientific Review*, vol. i. Dublin, 8vo. Hodges and M'Arthur, 1825; vol. ii. Wesley and Tyrrell, 1826.

ever feeble, to the great task of awakening her dormant powers, they will deem their labours more than sufficiently repaid." Twenty years have now elapsed, yet this patriotic hope has not given place to fruition; the present day is, however, pregnant with great events, and the industrial resources of our country not only occupy the attention of the learned, but are beginning to employ the capital of the wealthy and commercial, and to give employment and comfort to the labouring poor.

The original idea of this journal arose, we believe, with Dr. Lardner, then a resident master in the University, and the model which he chose was the Journal conducted by Professor Brande, then the most esteemed periodical in Europe. His colleagues in the editorial department were Professor Lloyd, then a Junior Fellow of Trinity College, Mr. Donovan, Professor of Chemistry, and Dr. Arthur Jacob, whose valuable communications on the anatomy of the cetaceous mammalia, from dissections made by himself and the late Mr. Shekleton, of a Diadon which was stranded at Killiney, form the chief medical communications of the work. Drs. Houston, Apjohn, Donovan, and Hart, likewise wrote original medical articles; but the chief bearing of this periodical was of a scientific and antiquarian character; yet, notwithstanding that it was originally supported by such men as Brinkley, the Lloyds, father and son, Knox, Petrie, and Nimmo, it gradually declined in circulation, and expired on the publication of the fifth quarterly number. It deserved a better fate, and its early numbers were pronounced by Sir Humphrey Davy, "the very best scientific journal in Great Britain;" but the last two numbers had certainly degenerated very much, and at all events it does not appear that the country was then in a condition to support such a periodical.

Notwithstanding the failure of the Philosophical Journal, Mr. Donovan's energy and zeal for science, though damped, was not quenched; and in 1829 he projected a new Irish periodical, the "Annals of Pharmacy and Materia Medi-

ca(o);" a monthly journal, published for the purpose of improving the science of Pharmacy, and the condition of the apothecaries of this kingdom; but the polemics of the latter appear to have outweighed the scientific interest or extent of the former, in which, however, appeared some of Mr. Donovan's valuable chemical and pharmaceutical discoveries. Some of the philippics launched against the so-called monopoly of the apothecaries' corporation, are good specimens of that description of literature. The twelfth number terminated its existence; its editor's principal object being, that of advocating the rights of the general apothecaries of Ireland, against what he and they conceived to be injustice on the part of the gentlemen of the Apothecaries' Hall.

On the settlement of Europe subsequent to the peace of 1815, learning, science, and the arts again upreared their heads, and among the various branches of knowledge that then strode forth with giant's pace, none exceeded that of medicine,—particularly in Germany. Several of our countrymen availed themselves of the advantages which the Continent then afforded, and shortly after returned home laden with the knowledge acquired in the schools of Göttingen, Berlin, Paris, Vienna, Leipsic, Heidelberg, and Bonn, where the true eclectic mode of investigation, and above all, clinical observation and instruction, were first carried out.

Dr. Robert J. Graves was the first to establish this mode of instruction in Ireland in the early years of the third decade of the present century, a task in which he was afterwards so ably assisted by his colleague, Dr. William Stokes: with these gentlemen arose the present modern school of medicine in Dublin. Then, for the first time, through the teaching of Macartney, physiology and comparative anatomy were included in our system of medical instruction.

(o) *Annals of Pharmacy and Materia Medica*, a new monthly Journal, edited by M. Donovan, M. R. I. A., Professor of Chemistry, Materia Medica, and Pharmacy, at Apothecaries' Hall, Dublin, &c. &c. Dublin, 8vo. printed by R. Graisberry, 1829.

As an effect of the interest in medical and pathological science, as well as the valuable discoveries in practical medicine which arose from this young school of medicine, at a time when there did not exist any medical periodical in Ireland, sprung "*The Dublin Journal of Medical and Chemical Science*," a bi-monthly periodical, the first number of which appeared in March, 1832(*p*). The original projector and first editor of this Journal, from whom, by lineal and uninterrupted descent, we now appear before our readers, though at present one of the most distinguished men of science in Ireland, and enjoying a well-earned European reputation, was then a medical student, though at the same time Professor of Chemistry to the Apothecaries' Hall,—we mean Dr. Robert Kane(*q*).

The original intention of the Journal was of a chemical and pharmaceutical character, merely including medicine and surgery as collateral branches of science. Shortly before the publication of the first number it was, however, deemed advisable to devote a portion of its original communications to practical subjects, and accordingly, we find in it essays upon such by Messrs. Hart, Corrigan, Porter, and Graves, as well as those of Messrs. Kane, Scanlan, and Ferguson. The Scientific Intelligence, to which its editor devoted much care and attention, is still a model for those retrospects which have since appeared both in this country and on the Continent, and was divided into sections embracing chemical and physical science, botany and natural history, anatomy and physiology, pathology and therapeutics, surgery, legal medicine and toxicology, and materia medica and pharmacy. After the appearance of the first two or three numbers,

(*p*) The Dublin Journal of Medical and Chemical Science, exhibiting a comprehensive View of the latest Discoveries in Medicine, Surgery, Chemistry, and the collateral sciences. Dublin, Hodges and Smith, 8vo. eight vols. After which it appeared as—The Dublin Journal of Medical Sciences, &c. to the present date, in all 28 volumes.

(*q*) We have heard it stated, that it was sworn before a committee of the House of Commons, that Dr. Kane never was editor of this periodical; what we assert is, however, the fact.

Dr. Kane had associated with him in his editorial capacity, Drs. Graves and Stokes, and as the *Journal* assumed a more practical character, and Dr. Kane became more engaged in chemical investigations, its management was chiefly conducted by the latter gentlemen, assisted for some time by Professor Porter. On Dr. Kane's obtaining the professorship of Natural Philosophy to the Royal Dublin Society, in 1834, he resigned his connexion with the *Dublin Journal*, in a letter published in the seventh volume, wherein he says, "that having anxiously watched over its infant struggles, and seen it after but a brief adolescence take a place among the medical periodicals of Europe, creditable to our country and highly gratifying to its supporters," * * * he terminates his editorial labours.

Numbers 25 and 26 for 1836 were edited by Dr. Jacob (see Johnson's *Medico-Chirurgical Review*, vol. 25, New Series, page 279). See also *The Dublin Medical Journal*, for March, 1836, vol. 9, page 150.

Drs. Graves and Stokes continued as editors up to the year (1842), when their increasing avocations obliged them to resign it into the hands of Messrs. Hamilton and Mac Donnell, our immediate predecessors, who carried it on to the conclusion of the 27th volume in the past year.

It was the first successful periodical, whether scientific, literary, or medical, that emanated from the Irish Press during the present century (*r*). It has now reached to twenty-eight goodly volumes, in which will be found the best record of the modern school of medicine in Dublin; for, without distinction of persons, we may safely say, that there is no medical man of eminence in this city, or indeed in Ireland, who has not contributed to its pages; and the volumes already published embody one of the largest collections of original facts and communications in medicine, pathology, surgery, and midwifery,

(*r*) The *Christian Examiner*, which is still carried on, had, it is true, an earlier existence, but the *Dublin University Magazine*, the first *successful* literary journal, did not start for a year after.

that can in all probability be found in any journal in Europe(s).

The political reforms, which commenced in 1829, affecting every class of society, and every form of scientific and literary institution, extended in process of time to the medical institutions of this kingdom. Shortly afterwards, inquiries were made into the management of our charities, and the arrangement of our medical corporations; these investigations were followed by the proposal of the poor law system for Ireland, and a reform was also contemplated in the professions of medicine, surgery, and pharmacy in this kingdom. These circumstances appeared to offer a favourable opening for a second medical periodical in Dublin, particularly, as with the exception of some two or three articles on the subject of medical reform, written in a very temperate spirit by the late Professor Lendrick, our own Journal never admitted any subjects extrinsic to matters of practical or scientific import. Accordingly, in January, 1839, appeared "*The Dublin Medical Press*,"—a stamped weekly politico-medical periodical, and now "printed at No. 15, Molesworth-street, Dublin, and published there every Wednesday morning, by Arthur Jacob, M. D., residing at No. 23, Ely-place, and Henry Maunsell, M. D., residing at No. 15, Molesworth-street, in the City of Dublin," Professors to the Royal College of Surgeons. Were we writing as Historians simply, and not in our Editorial capacity, we might offer some remarks on the tone and style of "*The Dublin Medical Press*,"—but, under existing circumstances, we deem it more proper to refrain.

Several medical societies, chiefly established by students,

(s) The great scarcity of some of the early numbers has induced the Publishers to reprint several volumes. From this reprint an opportunity is now afforded, to those who wish it, of completing their sets at a moderate cost. They have also, with considerable labour and at great expense, compiled and arranged a full and complete Index to the twenty-eight volumes, amounting to 126 pages, which was issued with the concluding number of the former series, No. lxxxiii. for Nov. 1845. Vol. 28.

were created during the last fifteen or twenty years; for instance, the "Richmond Medical and Physical Society;" the "Meath Hospital Medical Society(*t*);" the "Medico-Chirurgical Society;" and the "Society of Medical and Surgical Students;" these, however, have passed away without leaving any thing of literary interest to record.

Of late years scientific papers have been read at the evening soirees of the College of Physicians, and the College of Surgeons, the chief of which have been published in the *Dublin Journal*.

Our numbers have likewise been enhanced by communications from the three Medical Societies, which at present exist in Dublin, the Pathological, the Surgical, and the Obstetrical. Of these, the Pathological Society merits more than a passing notice, having achieved more for the healing art in this country, than all its predecessors together. It was established in 1838, by Dr. Stokes, and Dr. Robert Smith, two of the most distinguished pathologists in this country;—for its results, we refer with no small degree of pride to the pages of our own *Journal*, which, when there was no other medical periodical in Ireland, devoted a large space to the transactions and reports of this body; and its beneficial effects have extended even beyond our island, this society having since been imitated in nearly every large city in Great Britain. On the present occasion, we are happy to present our readers with the reports from April, 1842, to January, 1845, arranged according to the simplest modern classification, and we will continue to publish the corrected and extended reports of this Society, as furnished to us by the Council.

The members of the Surgical Society, instituted in July, 1831, have, at various times, published their most important papers in our pages, and on the present occasion we are happy

(*t*) This was the first literary or scientific body that conferred an honour on Professor Kane.

to afford our readers a very interesting communication lately read before this learned body.

The Dublin Obstetrical Society, founded in November, 1838, by Dr. Evory Kennedy, has also given rise to many most valuable communications upon a subject in which the school of Dublin has long and justly been acknowledged to excel. Its Proceedings and Transactions have always had a place in our pages.

From these it will appear that during the last twelve years we have contributed our quantum of support toward the cultivation of medical science in this city; a support deserving the greater praise, for, that our editors have heretofore devoted their time, talent, and energy, often without sympathy, and always without remuneration or reward.

During the past year Drs. Corrigan, Ferrall, Evans, and Aldridge, established "*The Dublin Hospital Gazette*," a two-weekly periodical, entirely devoted to matters of practical and scientific import, unconnected with medical politics, and uninfluenced by party feeling, jealousy, or personal hostility. It affords a good medium for lectures, clinical reports, and cases, as well as short retrospects of medicine and its collateral branches. Some of its most valuable articles have been of a chemical nature, from the able pen of its editor, our esteemed friend Dr. Aldridge.

Our task is now completed, very imperfectly we acknowledge, but the labour of compilation and criticism is one by no means grateful to ourselves, and we fear it may not be altogether devoid of tedium to our readers.

The abstract philosopher, or the mere observer and arranger of practical facts, may ask what benefit we confer on literature by the revival and transmission of matters such as we have taken for our text;—for such we have not written this preface; we have, however, in our present number, afforded *them* material such as they desire. To those,—the few who sympathise and feel an interest in every department of

our country's history, we would say, that, to merit their approbation, we have collected the facts put forward in the previous pages. Several of these facts, it may be observed, are derived from works now becoming exceedingly scarce, and traditions fast passing from amongst us. To both we would say, that no matter how the early political history of our native land may be darkened ;—of her literary and scientific history, her monuments and her antiquities, we have all, as Irishmen, a just right to glow with honest pride.

Concerning our future prospects, we must say, we shall endeavour to earn, if we do not merit success,—a success vouched to us by the generous, disinterested assistance of those noble friends who have already come forward to aid us in undertaking the most extensive work of its kind that has yet appeared in this kingdom.

With regard to the mechanism and management of our periodical, we intend retaining the threefold division observed in our former series, of Original Communications,—Reviews and Bibliographical Notices,—and Scientific Intelligence.

The original communications will consist entirely of essays, monographs, and details of hospital practice, in an arranged and digested form. The analytical reviews will have more space, as well as much greater attention devoted to them than heretofore, and will embrace every work of merit that appears either at home or on the Continent. In these we shall, as far as in our power lies, endeavour to be honest to our readers, as well as critically just to the authors ; and, at least, we can promise, for our *corps de revue*, that nothing shall appear in our pages unbecoming the dignity of the profession, nor our own character as gentlemen and scholars. In the third department, that of the Scientific Intelligence, we have made arrangements by which, in order to keep pace with the present condition of periodic literature, we shall at various periods throughout the year present our readers with Reports and Retrospects arranged by gen-

tllemen distinguished in each separate branch of knowledge, and compiled from the latest and best works and periodicals in our own as well as the French, German, and Italian languages, upon

Anatomy and Physiology,	Midwifery, and Diseases of
Pathology,	Women and Children,
Chemistry,	Minor Surgery and Ophthalmology,
Materia Medica and Therapeutics,	Zoology and Botany,
Practical Medicine,	Forensic Medicine, and
Practical Surgery,	Medical Statistics.

These shall also include original notices of rare and interesting cases afforded us by practical physicians and surgeons, of which we present some samples in the present Number. We have also established correspondents in several of the chief cities of the Continent, to supply us with the earliest medical intelligence. The publishers are thus enabled to afford, at a moderate cost, a Journal which shall be not only the mirror of Irish medical science, but one, which, they hope, will be able to cope with the best medical periodicals of the day. It is scarcely necessary to add, that medical polemics in any shape do not come within the province of our Journal.

For ourselves, reader, we have much indulgence to crave at your hands. We know we have to deal with a lenient public, who will now, as they have often before done, overlook our faults, in looking to our intentions. Unaffected by petty jealousy or personal hostility, we trust the same principles which animated our predecessors, may continue to influence us in our present undertaking :

“ Content if hence the unlearned their wants may view ;
 The learned reflect on what before they knew.
 Averse alike to flatter or offend ;
 Not free from faults, nor yet too vain to mend.”

ADDENDA TO THE EDITOR'S PREFACE

IN our Preface to the former Number of this Volume, we omitted to mention two other Irish Periodicals, which, although not devoted to medical or philosophical subjects, yet occasionally admitted such into their pages. The first of these was "The Dublin Examiner, or Monthly Journal of Science, Literature, and Art," a periodical of about eighty pages, 8vo., edited by Messrs. Wood and Hamilton, and published by Hodges and M^r Arthur, the first Number of which appeared in May, 1816. This proved but a nine months' wonder; it soon began to come out irregularly; and the last Number, that for January, 1817, did not appear till the 20th of April following. For the cause of its rapid decease we refer our readers to the spirited address of the Proprietors published with the last Number. It is now an exceedingly scarce work. In a literary point of view, it may cope with any of its contemporaries or successors. The chief medical and scientific attraction in this work is Mr. Donovan's admirable Essay on Galvanism, which was honoured by the Royal Irish Academy with a prize. There were in it also some papers on Newman's Blowpipe, and an account of Dr. D. E. Clarke's experiments with that instrument.

The question as to the efficacy of turpentine in puerperal fever, then engaged not only professional but much public attention, and several communications on the subject, as well as some angry disputation between the rival claimants, Dr. Brennan and Mrs. Kean, appeared in the Dublin Examiner. In the July Number we find an Essay on "Irish Conchology, classically arranged, from the cabinet of Doctor Turton;" one of the most valuable additions to the Fauna of this country that had then appeared. "The first attempt to bring the shells of Ireland into regular system was made by Dr. Taylor of this city, who presented a set to the Dublin Society, collected and arranged by himself, and amounting to about 120 species." In the list published in the Examiner, the number is increased to above 320. These were either in the cabinet of the author, or were to be found in the collections of Messrs. Travers, Tardy, Browne, or our esteemed friend, Mr. Matthias O'Kelly, who was one of the first collectors of shells that we ever had in this country. We are much surprised to find that our modern Irish conchologists do not seem to be aware even of the existence of this Catalogue. We will return to this subject again.

The next publication which could in any way come within the province of our Preface was, "The Dublin Magazine, or General Repertory of Philosophy, Belles-Lettres, and Miscellaneous Information," a monthly Journal,

the youngest and most thoughtless of students, that, whatever might be the pretensions of surgery in other respects, it was, in its operative department, a mechanical art, and consequently could be learned only (like other mechanical arts) by observation and practice. The young mechanic begins by carefully observing the modes of proceeding adopted by persons who are adepts in the art he means to learn, then tries his "prentice hand" first on the simpler, next on the more complicated parts of the vast subject which, by time, practice, and perseverance, he may yet hope "to master," and such must be the course of the student in surgery. When we learn to mend a watch by reading the article on watchwork in the *Encyclopædia Britannica*, we may hope to become proficient in surgery by studying Cooper's *Surgical Dictionary*.

I have selected for the subject of this lecture, the operation of lithotrity; I have done so because I think it important that you should thoroughly understand the principle and the details of the operation, before you see them applied to practice; and this preliminary explanation is the more necessary, because, if there be one subject more than another on which surgical opinion is divided, that subject is assuredly lithotrity. Where, I would ask, is the young practitioner, desirous of being on a level with the improvements of the age, and, at the same time, feeling the want of a guide for his practice, to seek for information on this subject? If he looks into the systematic works, he will find the highest authorities in direct opposition to one another, not merely on matters of opinion, but on the facts on which those opinions must be based. If, turning with disgust from statistics which point to directly opposite conclusions, according to the views of the parties by which they are used, he endeavours to collect the opinions of practical men, his embarrassment is only increased; professed lithotritists on the one hand, and hospital surgeons on the other, taking very different views of the subject;—the lithotritists maintaining that the new operation is applicable to almost every case of stone, is unattended

with any considerable pain, and is, *when properly performed*, quite devoid of danger;—the hospital surgeons denying all this; and asserting that lithotrity is applicable to a very limited number of cases, that it is to the full as painful and far more fatal than cystotomy.

Now when it is considered that lithotrity has been practised in a vast number of cases, both in Europe and America, for more than twenty years, it might be supposed that there were ample data to enable us to arrive at something like a conclusion as to the real value of the operation; unhappily, however, this is far from being the case, and the question as to which operation should be the rule and which the exception seems as far from being settled as ever. That such a question should ever have been raised in the French Academy is truly surprising, since it must be obvious that the question could never be determined by a debate, in the absence of a sufficient experience; and at the time the discussion took place, lithotrity (which was in its infancy) was in the hands of a few professed lithotritists, and, I believe, had never been practised out of Paris. It is not surprising, therefore, that the discussion soon degenerated into a personal warfare; assertions of success were met by charges of failure, and at length the only result of the debate was to cause deep and universal feelings of distrust in all medical statistics.

Dupuytren, himself a celebrated cystotomist, and the inventor of the bilateral operation, was, as may be easily imagined, anything but friendly to the new operation. In his edition of Sabatier (1824) he says, “it is unnecessary to occupy any time in describing the instruments which have been proposed for seizing and pulverizing calculi in the bladder, because their action is too uncertain and too dangerous, and quite inapplicable to the living subject.” The cases successfully operated on in his presence by M. Civiale induced him to mitigate this sentence, but his hostility was not the less determined, and in his “Report” to the Academy in 1831, he took

so unfavourable a view of the subject as induced the Academy to withhold for another year the great prize which had been adjudged to Civiale for his discovery in the year 1827. This proceeding on the part of Dupuytren gave occasion for the celebrated letter addressed to him by Civiale, in which I am bound to say that the castigation—the most severe that, I think, is to be found in the whole circle of medical polemics—is scarcely more than the occasion justified.

As a mode of determining the relative value of the old and new operation, Dupuytren then suggested that a correct list should be made out of the total number of persons operated on by lithotriety and cystotomy within a certain period, and that a comparison should be made (upon equal numbers) of cures and of deaths resulting from each mode of treatment respectively; and in this way he conceived that the question as to which operation should be considered as the rule, and which the exception, would be solved at once. M. Civiale at once accepted the proposal, and carried it out with an industry and ability which are above all praise: his Tables presented to the Academy contain no less than 5,661 cases of calculus in the bladder, all classified and detailed with a degree of accuracy which has never before been attempted: but, alas for statistics in medicine! how many equal conditions, as well as equality of numbers, are still wanting to qualify us to institute a comparison between the results of any two modes of treatment! Take, for example, the case in question: we require, besides the equality of numbers operated upon by the different methods, equality of age, sex, constitution, size and composition of the stone, state of the urinary organs, &c. on the part of the patient;—and, on the part of the operators, equality of skill. All these are plainly conditions absolutely unattainable, and with so many “unknown quantities” what is to become of our equation? But alas for human nature as well as for medical statistics! a greater obstacle to a just conclusion still remains behind; the humiliating truth remains to

be told, each party affirms, and, I grieve to add, brings forward official documents to prove, that his adversary's lists of cures are not to be relied on. In France it would appear (on the testimony of M. Amussat), that the statistics of operations are but too like the statistics of battles, each side diminishing the number of their own killed and wounded, and exaggerating the killed and wounded of the enemy. But this is a painful subject, and I will pursue it no farther(a).

(a) In justice, however, to M. Civiale, I am bound to say, that upon a careful and certainly unprejudiced examination of the whole controversy, the impression on my mind is, that the great "Inventor of Lithotrity" (I give him the title conferred on him by the Academy of Sciences) has not been quite fairly dealt with. I cannot, for instance, consider it fair towards M. Civiale, or towards lithotrity, to lay to his account, or to the account of the new operation, the deaths that occurred in cases in which the operation of sounding alone had been performed, whether by the ordinary sound or even by the three-branched instrument, or the *Percuteur*. Such preliminary investigations or "perquisitions" (as M. Civiale terms them) are as essential to the operation of cystotomy as of lithotrity, and that these perquisitions, whether *post hoc* or *propter hoc*, should have been followed in some instances by death is not surprising: it is only by such preliminary operations, however, that in doubtful cases it can be certainly determined whether or not relief can be obtained by any, and if by any, by what operation. If it be decided that no operation should be performed, then the death of the patient, which, sooner or later, must inevitably ensue, cannot, with any show of justice, be charged to the account of lithotrity. If these "perquisitions" were made only by the sound, and that death ensued even on the following day, no candid man could think of laying the death to the account of cystotomy, and still less of lithotrity; but even if it were to ensue after the use of the lithotrite or the percuteur, and that no attempt had been made to break up the stone, it would be nearly as unfair to place the fatal result to the debit of lithotrity. I freely admit that where attempts had been made to grind or break the stone, and that symptoms of local and general irritation had ensued which forbid the repetition of it, then, in such cases, the operation of lithotrity may fairly be said to have failed; but if in this state of the system (which forbids the farther application of lithotrity) cystotomy be performed, and if it should be immediately followed by death, then the fatal result, which may fairly be divided between the operations, should not be laid exclusively at the door of lithotrity. I admit that this explanation goes but a small

It is necessary, however, that I should prove the unsettled state of opinion *in this country* respecting the comparative value of lithotomy and lithotrity, and happily I am enabled to do so without reference to conflicting statistics. I trust I shall be able to shew, by a reference to *unquestionable facts*, that much of the prejudice which is entertained against lithotrity is founded on the exaggerations of professed lithotritists, whose interest it was to represent the operation which they exclusively practised as absolutely devoid of pain and danger, while the operation of cystotomy, as practised by hospital surgeons, was painted in the most terrible colours. The hospital surgeons, a few of whom enjoyed a monopoly of cystotomy, received, as they well might, with distrust the glowing accounts of the successes of the new operation, and with anger and disgust what they considered as an exaggerated picture of the horrors of the old. Take an example from the first account of lithotrity published in England.

“The first and most happy result of lithotrity will be, then, to banish from the minds of patients that dread which lithotomy has produced, and to induce persons thus suffering to have the calculi removed at the commencement of their for-

way towards reconciling the discrepancy between the tables of mortality, as given by M. Civiale and M. Velpeau, but it goes far to shew that M. Civiale has not been fairly dealt with, and if all the charges brought against him have as little foundation as one which I am enabled of my own knowledge to refute, he must stand fully acquitted of misrepresenting the amount of his success. The late Mr. Henn, of Merrion-square, from whom Sir Astley Cooper had extracted some fragments of calculi by means of his forceps in the year 1824, consulted M. Civiale in 1827, who ascertained, by sounding, the existence of several calculi in the bladder, complicated with extensive disease of that organ and of the prostate: he dissuaded him from undergoing lithotrity or any other operation, at least under existing circumstances, and placed him under the care of Dr. Morgan. Mr. Henn returned to Dublin, where he lived for several years, but never underwent *any* operation. At a sitting of the Royal Academy of Medicine, on the 3rd of January, 1828, the name of Mr. Henn appears among the number of those who had been operated upon by M. Civiale, and had died of the operation!

mation, and not to wait till the bladder becomes diseased, and diminishes the chances of success.

“The second consequence of this operation, which results from the first, will be to prevent these patients passing many years of their lives in suffering and misery ; for, not recoiling from an operation, the performance of which they know to be almost entirely free from danger, and generally little, or not at all painful, they will readily offer to submit themselves to it, without being compelled.

“If, however, lithotrity includes, in its general results, so many advantages over lithotomy, it also presents secondary ones, which are most important. A few observations on these two operations, compared with each other, will demonstrate this most unanswerably.

“Lithotomy requires to be performed in a favourable season ; lithotrity may be performed at all times, with equal chance of success : the former requires that the patient should remain in bed for a month or six weeks after the operation, the latter needs no confinement, and often allows the patient to pursue his usual avocations. Lithotomy requires the patient to be kept on a rigid diet, while he who undergoes lithotrity is only moderately restricted ; the recovery is often, in the former case, very tedious, whilst in the latter it is effected at once. Lithotomy often produces serious accidents, such as impotence, incontinence of urine, and urinary fistulæ ; lithotrity, from its nature, cannot cause any of these consequences : the former, whatever may be the means employed, always requires a large and deep incision ; the latter requires none. Lastly, lithotomy may cause almost instant death from hæmorrhage ; lithotrity cannot, under any circumstances, produce such a termination. We might carry this parallel still further, but the remarks we have just made will, we think, be sufficiently convincing.

“Thus the comparative advantages of the two operations cannot be balanced, and do not leave any doubt as to which the patient and the surgeon ought to choose.

“ Besides these advantages, lithotrity possesses another most important one : from the nature of the operation it allows trials to be made, which, when performed with *care and prudence*, relieve the patient rather than increase his sufferings ; lithotomy is a remedy which does not admit of any half measures—once begun, it must be finished : we can make a trial of lithotrity, we can never do the same with lithotomy”(b).

Now hear M. Civiale's account of the operation of cystotomy, which, for power of description, is, I think, without a parallel :

“ The operation is rarely performed in the chamber occupied by the patient. On entering ‘ the operation room,’ which he has been accustomed to consider as ‘ the place of his execution,’ the sight of the raised and covered table, the crowd of assistants, the preparations, all suggest the idea of the scaffold, and are enough to carry terror into the stoutest heart ; the terrible array of instruments, mysteriously concealed from his view, but ever present to his mind, the painful, but still more terrific posture in which he is placed on the table, the cords with which he is to be bound hand and foot, the shaving of the part on which the operation is to be performed,—all these circumstances, less serious in themselves than in the fears which they foment, fill the unfortunate sufferer's mind with terrors which increase every moment. Some, unable to support even the sight of so awful a spectacle, fall senseless on the ground ; others, as happened lately in the hospital at Pavia, fly from the room, and absolutely refuse to submit to the operation. On his side, the surgeon is far from feeling at ease. ‘ Does he know (observes De-champs), is he absolutely certain of what he has to do ? Can he foresee all the obstacles that may present themselves ? No doubt the rules are all clearly laid down, but their application is so subject to vary that from this source alone the most insurmountable difficulties may result. The practice of the

(b) “ Principles of Lithotrity ; or a treatise on the art of extracting the stone without incision, by Baron Heurletoup.”—London, 1831. p. 3-4.

greatest surgeons is before us to attest the fact, and even in our own days we have a sufficient number of instances to convince us of the truth of it; hence it is that cystotomy has ever been, and must for ever remain in the hands of a few surgeons, who often derive from their experience resources that genius and knowledge would fail to supply"(c).

M. Civiale then proceeds to give three fatal cases of cystotomy, attended with the most terrible sufferings; one from his own practice, one from the practice of Covillard, and one from Dupuytren's. In one (Covillard's), "after two hours of the most horrible torments, during which several pairs of forceps were bent or broken, when the patient was so exhausted as to be able to utter only some feeble moans, and when his last breath was about to depart with the last drops of his blood, he was unbound and laid in bed, where he expired in the course of an hour" These terrible, but, I fear, not too highly coloured details, though calculated to increase the horror in the public mind against cystotomy, are clearly chargeable not to the operation, but to the operator. The cause of these disasters was the attempting an operation which was impracticable, from the great size of the stone: and the surgeon who from culpable ignorance committed the mistake, should have been tried for manslaughter for persisting in it, "contrary," as Civiale states, "to the urgent request of all the bystanders." "But," he adds, "he was not to be dragged from the altar or from his victim." Such a scene, I rejoice to say, has never been witnessed in this country (at least within my time), and if a surgeon could be found so brutal as to persist in an operation after all hope of bringing it to a successful issue was lost, the indignant feeling of the bystanders would prevent him from perpetrating such a crime.

The publication of such cases, however, was all in favour of the new operation. The public, with mind preoccupied

(c) *Parallèle des divers Moyens de traiter les Calculeux*. Par le Docteur Civiale. Paris, 1836.

and shocked by such details, hailed with delight the announcement of an operation "which," to use the expression of Baron Heurteloup, "was almost entirely free from danger, and little or not at all painful."

Now, strange as it may appear, I do not hesitate to say, and I am in a condition to prove to you, that this is not too favourable a picture of lithotrity, *if the operation be properly performed, and restricted to those cases which come within its proper domain*; but if applied generally to lithotrity, *as a substitute for cystotomy*, it is lamentably untrue. This, however, is a distinction which the public could not make, and the new operation was accordingly hailed by them as "a gift from heaven to suffering humanity,"—"a complete substitute for cystotomy," and "which was opposed," to use M. Amussat's, expression, "only by old surgeons, encrusted by prejudices and blinded by their interests(*d*)."

In the month of March, 1839, I operated by lithotrity in the presence of Sir H. Marsh, Mr. Hamilton, and Mr. Smyly, on Mr. Henry Kemmis, of Merrion-square, the Chairman of Kilmainham. I shall again have occasion to allude to this case, but at present I shall merely read an extract of a letter which I received from him shortly after he had been relieved of his stone, which was effected by three operations. "I think," he writes, "the operation is more distressing from the position in which the patient is placed, than from any great

(*d*) This favourable view of lithotrity derived, it must be acknowledged, no inconsiderable support from the Report presented to the Academy of Sciences by Messrs. Percy and Chaussier; they conclude their Report in the following terms:—"D'après ce qui précède et voulant tenir un juste milieu entre l'enthousiasme qui exagère tout et la prévention contraire qui cherche à tout rabaisser, nous estimons que la méthode nouvelle proposée par M. le docteur Civiale, pour détruire la pierre dans la vessie, sans le secours de l'opération de la taille, est également glorieuse pour la chirurgie française, honorable pour son auteur, et consolante pour l'humanité * * * * enfin, que M. Civiale, qui a bien mérité de sa noble profession et de ses semblables, a aussi acquis des droits à l'estime et à la bienveillance de l'Académie, dans le sein de laquelle la philanthropie a son culte, comme les sciences y ont leur autel."

pain, but neither after nor between the three operations was I prevented from attending to my usual occupations of business, nor was I even confined to the sofa on the days on which they were performed. My appetite and spirits were perfectly good." In fact, when I called on Mr. Kemmis in the evening after the last operation, I found him at table with a party of friends after dinner. This is a complete verification of Baron Heurteloup's statement, if limited to a certain description of cases, but, I repeat, if taken as a picture of lithotrity when applied indiscriminately, for the relief of stone, it would be lamentably remote from the truth. With such conflicting testimony before you, with such limited opportunities of personal observation, where are you to look for a guide? Not, surely, to professed lithotritists, whose direct interest it is to cry up an operation which they exclusively practise, nor to those surgeons who, practising *only* cystotomy, are disposed to undervalue an operation of great delicacy, difficulty, and danger, which, to be practised with success, requires a special study and mechanical tact, and which is as special and perhaps as rare a faculty as a correct musical ear: it was therefore well remarked by Messrs. Percy, Dupuytren, Chaussier, and Larrey (the commissioners appointed by the Academy to report on the merits of lithotrity), "that the real merits of the operation could never be ascertained until it was adopted by hospital surgeons, who had long practised the operation of cystotomy, and who could have no motive for practising the one operation rather than the other, *except* the safety of their patients and (by a necessary consequence) their own reputation."

It becomes the duty, therefore, of every hospital surgeon, who has availed himself of the opportunities which have presented themselves of performing the new as well as the old operation, to give the results of his practice to the Profession, and that too in such a way as to leave no room for cavil as to his statistics. This can be done but in one way, and that is to give a nominal list of *every patient* whom he has treated,

stating the particulars of each case, the immediate results of the operation, and the actual state of the patient after an interval of many months, and, if possible, of years. The surgical profession and the public are under infinite obligations to Mr. Key, for having led the way in this true path of inquiry; himself one of the most expert and successful of living lithotritists; he has studied the operation of lithotrity, and brought to its performance the most consummate skill, based on a most extensive experience. I must refer you for the results of Mr. Key's experience to his admirable paper in the fourth number of Guy's Hospital Reports. Following so good an example I have determined to give on the present occasion the result of my personal experience in lithotomy and lithotrity, which extends over a period of upwards of forty years, during which time I have seen the operation performed, both in these countries and in France, by the most celebrated surgeons who have lived during the last half century, and I have myself operated on sixty-eight individuals, on forty-nine by lithotomy, and on nineteen by lithotrity, and on two of these by a combined operation consisting of lithotrity and cystotomy, or rather by what Mr. Willis calls Lithectasy, that is, by opening the urethra at its membranous part, and dilating but not dividing the neck of the bladder, and extracting from the bladder the fragments of the calculus, which had previously been crushed by the lithotrite.

Now with respect to these statistics, and especially as relates to the results of the operation, I may observe, that in this town, where the field of practice is, as contrasted with London and Paris, comparatively small, and where the interest which attaches to operations for the stone is, for many reasons, exceedingly strong, the results of every man's practice in this department must be perfectly well known to every member of the Profession. Operations for stone are performed either in hospitals, under the eyes of the greater number of the practising surgeons of the city, and of some hundreds of

pupils, or, in private practice, in the presence of at least six assistants, some of them necessarily surgeons of the highest eminence, and themselves lithotomists. It is impossible, therefore, for a surgeon to pretend to a success which he has not obtained, without the certainty of exposure. The statistics, therefore, of operations for the stone in Dublin, embracing comparatively but a small number of cases, have at least the recommendation of authenticity. I have thought it right to say this much respecting the authenticity of the statistics, because the statements I have to make will be read elsewhere, and will be used, so far as they go, as materials for constructing tables, from whence alone just conclusions can be drawn, not merely respecting the value of lithotrity generally, but as to the description of cases to which it is especially applicable.

It may be expected that I should say something respecting the History of Lithotrity, a subject, no doubt, of great interest; I must, however, be brief, this is not the place or the occasion for entering on this *vexata questio*. The curious on such subjects will find all the information they can desire in M. Civiale's admirable "Parallele"; in the introduction to Baron Heurte-loup's Treatise on Lithotrity; and, in a compendious form, in Amussat's *Table Synoptique*. One curious extract, however, I must read to you, the more so as it has escaped even the wonderful research of M. Civiale, and distinctly traces the first operation for the stone by lithotrity to England; it is as follows:

"My Lord President, being of the age of xxxvi. yeares, went into Ireland a hole man, not touched with the stone, and so remained one yeare and a half or thereabouts, and then, after long grief, avoided two stones which were very big, such as few men have been known to have avoided. After this he took his journey into the north parts of Irelande, and so continued void of pain or grief until his arrival in Eng-land, which was about 8 weeks after, and then at Chester felt the like grief as at first, and so continued in pain until

Christmas Eve ; at that time being searched with surgeons he avoided one other stone, *broken by the surgeon his instruments in divers pieces*, for that it was so great that otherwise it could not be taken out, for all the pieces laid together might make the quantity of a nutmegge.”—*The State of Sir H. Sidney’s bodie*, MS., Ireland, 1559, in *Her Majesty’s Office of Papers and Records of State*. See *Collins’ Lives and Actions of the Sidneys*, p. 95.

It would appear that the origin of lithotrity, like the origin of many of the inventions which exercise the greatest influence on human happiness, is involved in darkness ; all, however, that really concerns us in this matter, is the history of the new application of the invention in our own times, and its adoption in these countries.

The result of all that I have seen, or heard, or read, on this thorny subject, may be stated in a few words. Ingenious men in England, Germany, and France, invented and constructed instruments for the reducing of stones in the bladder to fragments that might be expelled, with the urine, through the urethra: Gruithuisen in Germany, Elderton in England, Leroy, D’Etiolles, and Amussat in France ; but beyond all question, to Civiale is due the honour of having first constructed and successfully applied an instrument for the crushing or reducing to powder a stone in the bladder of a living man. This was an offence not easily to be forgiven, as it wounded the self-love and the interests of those who, engaged in the same path of inquiry, found themselves outstripped in the race, and that too at the moment when they thought the victory was their own. MM. Amussat and Leroy had actually invented instruments of great ingenuity, and well adapted to the purpose of grinding a stone in the bladder. M. Civiale, constructing an instrument for himself, combining all that was best in the instruments of his predecessors, applied it too with success, and was hailed by the Academy of Medicine as *the*

inventor of lithotrity, a title to which, in my opinion, he is justly entitled(*e*).

The history of the introduction of lithotrity into Dublin is, however, a subject of some interest; and is not altogether devoid of instruction. Some time (as well as I can remember) in the year 1829, I visited a Roman Catholic clergyman, in consultation with Mr. Colles: he laboured under all the symptoms of stone in the bladder, and the existence of a calculus was ascertained by the operation of sounding: he was anything but a fit subject for cystotomy, so it was with great satisfaction that we learned that he had gone to Paris, to place himself in the hands of M. Civiale. He returned to Ireland in the course of a few weeks, relieved of his stone; I believe he had been cured in three sittings, and I need scarcely add, that such a result was calculated to make a strong impression in this country in favour of the new operation.

In the year 1830, Major Moore, of this town, applied to me with symptoms of stone in the bladder; I sounded him, but was unable to detect the calculus; the *rational* symptoms of calculus, however, were so strongly marked, that I continued to sound him day after day, but still with no better success. Major Moore proceeded to London, and consulted Mr. Green, Sir. A. Cooper, and Sir B. Brodie; he was sounded repeatedly by these gentlemen, but no stone could be found. He returned to Dublin and brought me letters to the following effect:—1st, from Sir A. Cooper: “Your friend, Major Moore, has no calculus in the bladder; his disease is an enlarged and irritable prostate gland.” 2nd, from Sir B. Brodie: “I cannot discover a stone in Major Moore’s bladder, but I have no doubt that there is one there, and that it will yet turn up.” I asked him to let me sound him once more; he consented, and on introducing the sound it came at once in contact with the stone! From that mo-

(*e*) See *Extract de l'Analyse de l'Academie Royale des Sciences pour année 1824*. Par M. Le Baron Cuvier.

ment there was not only no difficulty in finding the stone, but it was impossible to pass an instrument into the bladder without knocking against it. As the stone was very small, I thought it was a fair case for trying Sir A. Cooper's forceps, which I had used on one occasion before with good success. There was no difficulty in seizing the stone, but the opening of the blades of the instrument, and the drawing the stone into the neck of the bladder, caused such pain that I was obliged to desist. I immediately proposed to Major Moore that he should proceed to London and place himself in the hands of Baron Heurteloup, who was then practising lithotrity with great success. I gave him a letter to the Baron, who operated upon him immediately, and in two sittings relieved him of his stone(*f*).

A very few months afterwards, my old friend and fellow-pupil, Mr. Castle, surgeon to the County of Clare Infirmary, came up to town with stone in the bladder, but he was also far advanced in phthisis; his sufferings from the stone were so great that he paid no attention to the pulmonary symptoms, and would scarcely allow me to allude to them. Cystotomy was here out of the question, as in such a case it would inevitably prove fatal; I sent him therefore to Baron Heurteloup, who cured him in five sittings. Mr. Castle lived for about a year after the operation, but never suffered an hour's uneasiness from his urinary organs; to the last day of his life he continued to speak in terms of the highest admiration of Baron Heurteloup's skill, and of the warmest gratitude for his kindness and liberality.

I afterwards recommended Mr. Armstrong of the King's County, and Mr. Rodgers of Limerick, to place themselves in the hands of the Baron; they were both cured; but in the case of Mr. Rodgers, the stone was re-formed, probably on a fragment which had remained behind after the first operation, for he had totally lost the expulsive power of the bladder,

(*f*) See Essay on Lithotrity, by Baron Heurteloup.

and had a greatly enlarged prostate. I sent him a second time to the Baron, and he was again relieved. I shall have occasion again to refer to this case, as about a year afterwards I operated upon Mr. Rodger, and broke up a large stone which had been formed subsequent to the Baron's last operation. After this he continued free from stone for the rest of his life, and died only a few months ago at the advanced age of seventy-six.

With four such cases before my eyes it would be wonderful indeed if I did not determine to know something more of lithotrity. I therefore proceeded at once to London and waited on Baron Heurteloup, telling him frankly that I wished to witness his mode of operating, with a view of practising it myself. He received me with the utmost kindness and liberality, and brought me to witness an operation which he performed on that day on a private patient (Admiral Cumberland). The operation was performed with Civiale's three-branch instrument (for the Baron had not then employed his *percuteur a marteau*), and, I need scarcely say, nothing could exceed the dexterity and skill, unless it be the gentleness with which it was performed. I supplied myself with the instruments, and, after making some trials on the dead subject, I satisfied myself that the operation was applicable only to a very limited range of cases, and that even in the most dexterous hands it was likely to prove as dangerous as it was difficult; I determined, therefore, never to attempt it. The invention, however, of the two-branch *percuteur* changed the whole character of the operation, and with it changed my resolution, so I immediately procured one, and laid myself down to the study of it. But here I must interrupt my narrative, to say a very few words respecting the invention of this admirable instrument. Now, conceding, as we are bound to do, to Civiale (if not the discovery), at all events the application of lithotrity, I would assign to Heurteloup the merit (scarcely inferior to that of Civiale's) of having invented lithotripsy,

that is to say, the seizing of the stone with a two-branch curved instrument, instead of a three-branch straight one, and reducing it to fragments by means of repeated blows of a hammer. This is the *percuteur courbe a masteau* of Heurteloup, and it is, beyond all comparison, the best instrument that has as yet been invented for pulverizing calculi in the bladder; and this is true, whether the effect be produced by percussion, when the branches are closed on the stone, by the blows of the hammer, or by compression, as when they are closed by the action of a screw. The best proof of the superiority of the *percuteur* to the three-branch instrument, is the fact that it is the instrument which is now exclusively employed by Civiale and by every lithotritist in Europe and America. In justice to a most ingenious artist it is but fair to state, that an instrument in all material points identical with the Baron Heurteloup's was invented and executed by Mr. Weiss, of London, so early as the year 1824. Whether or not this instrument of Mr. Weiss's suggested the curved *percuteur* to the Baron is more than I will venture to decide, for nothing is more natural or of more frequent occurrence than that two ingenious men, whose minds are working on the same subject, should hit upon the like contrivance to effect the same object. That Mr. Weiss did not take his idea of the two-branch instrument from the Baron is certain, because we have the unquestionable evidence of Sir B. Brodie as to the fact of his having seen the instrument with Mr. Weiss in 1824; and the character of the Baron for high-mindedness and candour must place him beyond the reach of suspicion, that he pirated the invention of Mr. Weiss.

To return to my narrative: furnished with a *percuteur*, I had not long to wait for an opportunity of employing it. In February, 1834, a man of the name of Doyle was admitted into the hospital with symptoms of calculus; it was ascertained in the country that he had a small stone in the bladder; he was 35 years of age, and seemed in perfect health; he was,

however, excessively timid, and acknowledged, that although he came up to town with the intention of being operated upon, he doubted whether he could ever bring himself to submit to the operation. When I told him that I intended to endeavour to remove the stone by breaking it up in his bladder, without cutting him, he seemed transported with joy, and said he would submit to anything if I would promise not to cut him. I then set to work to qualify myself for the performance of the operation, and began by preparing a subject in such a way that I could look into the bladder while I was manipulating with the instrument; this can be most conveniently done (when the anterior wall of the abdomen is removed) by cutting away the upper fundus of the bladder, and keeping the opening distended by stitching the cut edges to a ring of strong wire about three and a-half inches in diameter. By practising on a subject so prepared, or even on a well stuffed cushion, on the centre of which the calculus may be laid, you will soon discover a knack (which very few lithotritists have, so far as I know, as yet made public) by which you can, while your eyes are closed, catch the calculus with certainty at the very first attempt: here is the manœuvre.—[Here the lecturer having laid a calculus on a linen cloth, about six inches square, which was drawn tightly at the four corners by two assistants, pressed the curved extremity of the *percutateur* gently downwards on the cloth, so as to form a sort of double inclined plane, or funnel-shaped depression, down one side of which the calculus immediately rolled, and dropt into the jaws of the instrument, which were open to receive it. In endeavouring to seize fragments or portions of the stone this manœuvre is facilitated by gently shaking the instrument.]

After a few days' practice in this way I performed the operation in the Meath Hospital on the 7th of March, 1834. The stone was seized with the greatest ease, and broken by means of a small hammer; the operation was repeated on the 10th, and the whole of the detritus was discharged before the 14th; on the 18th the man returned to Waterford, where he still

lives, and, as appears by a note from Dr. Mackesey, has had no return of his complaint. This is the first case in which lithotrity was performed in this country ; a detail of the cases in which it has been since employed will prove that it is now more fully adopted, and that its true value is in course of being duly appreciated.

Before entering on an examination of the instruments used in the operation of lithotrity, it would be well to inquire, in the first place, what is the problem which lithotrity has to solve ? It may (according to Civiale) be conveniently stated under the following heads :

1st. The reducing of calculi within the bladder into fragments sufficiently small to be discharged or removed through the natural passage.

2ndly. The effecting this by such means as shall excite no dangerous irritation in the urinary organs.

3rdly. The freeing the bladder or urethra from the fragments which these organs may not have the power to expell.

To effect these objects, it is necessary that the instrument should combine a degree of strength sufficient to overcome the cohesion of the particles of the calculus, with a form and dimension which will admit of its being passed through the urethra without exciting any considerable irritation ; let us see how these desiderata are fulfilled by the instruments now in use. I need not detain you by a detailed description of M. Civiale's three-branch instrument, for, ingenious as it is, it has fallen into disuse. [Here the lecturer shewed the manner of using the straight three-branch instrument, and stated the objections to it, namely, the pain, difficulty, and sometimes (as when the prostate gland is large) the impossibility of introducing it without wounding that body, the encountering very large, hard, or flat stones, and the branches becoming engaged in former perforations, &c.] Jacobin's instrument, highly ingenious, but deficient in power, has no provision for getting rid of the fragments lodged in it ; but all instruments are rendered obsolete, by Baron Heurteloup's or Weiss's curved *percutateur*.

The *percuteur* has undergone several alterations and some improvements, but I consider that the most important improvement is the provision for preventing the accumulation of detritus between the jaws of the instrument. I early perceived this great defect, and applied to one of the most ingenious mechanics that this or any other country has produced, to remedy it, I speak of the late Mr. Oldham(*g*), the

(*g*) [The lecturer here exhibited and demonstrated the use of the instrument made by Mr. Oldham, and also read his letter upon the subject, which is now in our possession, and dated the 6th of August, 1834. Perceiving the disadvantage arising from the jaws of the two-branch instrument being solid, and retaining in their gripe a quantity of detritus, Sir Philip applied himself to remedy this defect by contriving two square apertures in the inferior blade; this, however, not having the desired effect, he explained the difficulty to Mr. Oldham, who at once remedied it by cutting a “slot” or aperture nearly two inches long in the inferior arm of the instrument,

which is represented of the natural size in the accompanying wood-cut, and which is certainly one of the greatest improvements on the two-branch instrument. Care must, however, be taken, that the sides or wings of this cut are not made so slender as to endanger the integrity of the instrument in crushing a hard calculus.

In order to clear the jaws of detritus, the late Mr. Colles exhibited at lecture in 1834, a small wire stilet adapted by Mr. L'Estrange to a groove in the under surface of the upper branch, which, on

being protruded, cleared the groove in the lower branch, but did not remove any of the pieces from the upper toothed portion of the instrument, besides which it is objectionable from its great liability to slip from its bed, and injure the bladder. Of the many lithrotites which we have yet seen, none have equalled that of Mr. Oldham, in the accurate adaptation of the blades and the

smoothness with which it works. This he achieved by planeing out the lower branch into the form of the cut here exhibited, which shews a section of the instrument near the handle.

Another advantage of Mr. Oldham's original instrument, which now lies before us, is that the toothed blade accurately and completely fills up the “slot” or aperture of the lower one.



inventor of the machinery for preventing the imitation of Bank notes. The invention has been claimed by many, but here is the original instrument, made in 1834, which I have used in public and in private practice ever since that period.

The preparation of the patient is general and special.

The general consists in light diet, abstinence from fermented liquors, free bowels without purging, the use of the hip bath; if the urine be acid, administering alkalies combined with uva ursæ or Peruvian bark, and Vichy water; mineral

At this period of his address, the lecturer exhibited a great variety of instruments, and explained the improvements of different artists, and among the rest, that of the application of the screw by Mr. L'Estrange, of this city. He also dwelt on the most important practical points connected with the operation, but the descriptions being accompanied by demonstrations, do not admit of being here given in detail: one point, however, appeared to us to be original and of the utmost importance. We allude to a contrivance for clearing the bladder of detritus, in cases in which the expulsive power of that organ has been (as so frequently happens in old persons) impaired or destroyed. The apparatus consists of a strong glass vessel of an oval form and six or eight inches in length by three in diameter, and capable of holding about a pint and a half of water; to this vessel is attached a tube of about half an inch bore, furnished with a stop-cock. The air being exhausted by means of an exhausting syringe, and one of Heurteloup's wide-eyed steel evacuating catheters being introduced into the bladder, it is next attached to the exhausted vessel; the stop-cock is then turned, and a communication being thus established between the bladder and the glass, the pressure of the atmosphere is by this means brought to bear on the bladder, and supplies an expulsive power, which may be increased to any required amount. The lecturer stated that he had an opportunity of testing the efficacy of this instrument in the presence of Mr. Liston, on the case of Mr. Rodger, a gentleman of past seventy years of age, who had been twice operated on by Baron Heurteloup. Sir Philip operated a third time, and emptied the bladder (which for several years had been *totally* deprived of all expulsive power) of the whole of the detritus. Mr. Rodger lived for three years after the operation, and suffered no return of the calculous affection. Sir Philip repeated the experiment in our presence with complete success, upwards of two drachms of pulverized calculus having been drawn at once from the bladder into the glass globe.—ED.]

acids when the urine is alkaline, and the infusion of Pareira brava when there is mucous deposit ; also absolute rest ; with occasionally anodyne enemata.

The special preparation may be summed up under the heads of gradual dilatation of the urethra when necessary ; division of its orifice, when preternaturally contracted ; and the frequent introduction of the catheter ; on this latter I lay the greatest stress, as, if properly conducted, it allays the irritability of the urethra and the bladder.

[Here the lecturer demonstrated the position of the patient on Heurteloup's bed, and proved that a fixed point in the instrument is not only unnecessary but dangerous. He also exhibited Amussat's hand vice, applicable when percussion by the hammer is employed, and shewed the mode of injecting the bladder, cautioning his hearers against the too rapid introduction of the fluid—more than one fatal case having arisen from this cause. In executing this manœuvre the water should be so slowly introduced as to imitate in some degree its descent from the kidneys. In performing the operation the various steps of seizing the stone, and how it was effected, were gone through, as already explained at page 19, as well as the removal of detritus from the bladder, by means of the lecturer's invention of the exhausting apparatus. He also shewed the mode of removing fragments from the urethra by cutting down upon them, as well as by means of Leroy's jointed curette.]

So much then for the *operative*—the purely *mechanical* part of lithotrity, on the dexterous and delicate performance of which much, no doubt, of the success of the operation will depend. In calculating, however, the probable *result* of the operation, there is a far more important element to be taken into account than the skill of the operator or the excellence of his instruments, namely, the proper adaptation of the operation to the case. If from a too exclusive admiration of lithotrity, founded on the exaggerated representations of some of its

advocates, uncorrected by an extended experience, lithotrity be applied to a case to which it is inapplicable, and that properly comes within the province of cystotomy, the certainty is that the operation will fail, and the probability is that it will prove fatal; and to a certain but not so great an extent the converse is true; if, for instance, lithotomy be performed on a person labouring under phthisis, extensive disease of the liver, or kidneys, it will certainly prove fatal. Such cases are not likely to succeed when treated by lithotrity; still they *may* succeed, and if the stone be small and the bladder tolerably sound, the probability is, as in the cases of Drs. Sproule and Castle, that they will succeed; and life may not only be prolonged, but, what is scarcely less desirable, what remains of it may be spent in comparative freedom from pain. Again, if perineal cystotomy be attempted in a case where the size of the stone is so great, that it either cannot be extracted through the lower opening of the pelvis at all, or without employing such violence as to render the operation almost certainly fatal, then lithotrity affords a means of relief, whether applied alone or in aid of cystotomy or litbectasy. Here are the fragments (and they form but a part, perhaps two-thirds,



of similar portions) of a calculus which I removed in the year 1836, from the bladder of a gentleman, of the name of Bibby, who is now in perfect health, and resides in Kilkenny; that stone measured three inches and a half in its longest diameter, and two inches and a half in its shortest; the gentleman weighed eighteen stone, and was exceedingly fat; the operation above the pubis was therefore impossible. Had cystotomy been attempted here it would certainly have proved

fatal; for, even had the stone been extracted, it must have been by such violence as is described with such terrible truth in the extract which I read you from Civiale's "*Parallele*."

In the case of Mr. Bibby, the stone was broken into these fragments in fourteen sittings [here the lecturer exhibited a large collection of detritus], and the three larger ones (see engraving on opposite page), which could not pass through the urethra, were extracted, together with several smaller ones, through an opening in its membranous part at a single sitting, by means of Sir A. Cooper's urethra forceps, as modified and greatly improved by Sir Benjamin Brodie.

It appears then, that cystotomy and lithotrity are not to be considered as rivals, and that the question, as to which of the operations should be the rule and which the exception, should never be brought into discussion; each operation has its special province, the boundaries of which (if indeed they admit of being fixed at all) can be determined only by a comparison of a vast collection of facts, carefully noted, and, above all, faithfully reported, and properly authenticated.

The discussions in the Academy of Medicine are of infinite value in this respect, that they prove the utter insignificance of tables which give merely the *results* of operations, however numerous, without stating the *circumstances*, such as the age, sex, constitution, state of the urinary organs, &c., in each particular case. How different, for instance, would be the conclusion drawn from two tables containing an equal number of cases in which lithotrity had been performed, if two-thirds of the patients in one list were between the age of two and fourteen, and two-thirds in the other between the age of thirty and sixty? In the discussion in the Academy, the want of specification, and, above all, the want of due authentication, rendered an appeal to statistics perfectly nugatory as a means of arriving at the truth, but a most dangerous weapon of offence in the hands of a skilful and unscrupulous adversary. If we look to the state of professional opinion in France, we

find M. Velpeau, the most able, eloquent, and determined opponent of lithotrity, admits that, in cases of small stones, and even of large ones, if they be friable, and the bladder and its appendages be healthy, lithotrity is the preferable operation; but in all cases of children under fifteen years of age, and even in adults, where the stone exceeds in volume a small nut, and is of excessive hardness, and when the urinary organs are in a state of disease, as evinced by catarrh of the bladder, contracted or irritable urethra, then he would prefer lithotomy. Amussat, Lisfranc, Dubois, and Leroy, on the contrary, are vehement supporters of lithotrity; they would apply it to almost every case admitting of any operation, even to children and infants. M. Civiale, however, though sufficiently partial to what may fairly be called *his own* operation, is far from applying it indiscriminately: to do justice to his views, it would be necessary to reproduce the whole of his incomparable "*Parallele*" (for it does not admit of abridgment), consisting, as it does, of detailed descriptions of almost every possible modification of calculous disease, with the modes of proceeding applicable to each(*h*). Now, what (you will naturally inquire) is the state of opinion on this subject in England? I should find it exceedingly difficult, indeed impossible, to state it in general terms; for although having the great pleasure and advantage of spending some portion of every year in the society of many of the most distinguished surgeons in England—of observing their modes of practice, and of collecting their opinions, I find it impossible to do more than to give you the individual opinions of some of the most eminent hospital surgeons in London.

Sir B. Brodie's opinions are well known, as they are recorded in his invaluable Lectures on the diseases of the urinary or-

(*h*) "Quand la pierre est à la fois volumineuse et dure, la cystotomie mérite généralement la préférence sur la lithotritie, dont alors, comme je l'ai dit, l'application devient difficile, la manœuvre douloureuse, et le résultat incertain."—*Civiale Parallele*, p. 277.

gans ; a work which is, or at least ought to be, in the hands, or rather in the head, of every member of the medical profession :—" It is due to you," says this sagacious practitioner, " that you should be made acquainted with the unfavourable circumstances which may attend on this mode of treatment ; but you are not to suppose that it often happens that these exist to any considerable extent, or that the probability of their occurrence is sufficient to counterbalance the great advantages which the new operation often presents over that of lithotomy. It would be a great error to represent it as preferable on all occasions, but it is so in a great many instances.

" In boys under the age of puberty lithotomy is so simple, and so generally successful, that we ought to hesitate before we abandon it for any other kind of operation.

" There is also a manifest objection to lithotrity in these cases, on account of the small size of the urethra, which is such that it would not admit of the introduction of instruments of sufficient strength to crush a calculus of more than moderate dimensions.

" In the female sex the extraction of a calculus from the bladder by the ordinary methods is attended with little danger ; while the operation of crushing it is rendered difficult, in consequence of the short and wide urethra allowing the water which has been injected into the bladder to escape by the side of the lithotrity-forceps before the operation is completed.

" In cases in which the calculus has attained a very large size, it is often difficult to seize it with the lithotrity-forceps ; the operation of crushing requires to be repeated a great number of times, so that many weeks may elapse before the cure is accomplished ; a larger quantity of fragments is left in the bladder, of which the necessary consequence is a great liability to inflammation of the mucous membrane ; and of course the inconvenience produced by the passage of the fragments along the urethra is multiplied, as compared with what happens when the calculus is smaller. These circumstances form

a sufficient objection to the operation of lithotrity in these cases. It is true, that they are unfavourable cases for lithotomy also; but I have little doubt that the latter method is the safer of the two. It admits of a question, whether, in such cases, the two modes of operating may not be advantageously combined, the calculus being crushed into three or four pieces first, and extracted by the usual incision afterwards.

The operation of lithotrity, as I have already observed, is not well adapted to those cases of enlargement of the prostate gland, in which the patient is enabled to empty the bladder by his own efforts, unless the calculus be of a small size, so that there may be no great difficulty in washing the minute fragments, into which it had been crushed, out of the bladder, through a large catheter.

“There is also another objection to the operation in some cases of enlargement of the prostate, namely, that the tumour which projects from it into the cavity of the bladder, makes it difficult to elevate the handle of the forceps sufficiently to seize the stone easily in the usual manner(*i*).”

Mr. Liston, himself one of the most distinguished and successful lithotomists in Europe, is, naturally enough, strongly prepossessed in favour of an operation in which he so much excels. His opinion of lithotrity is, therefore, far less favourable than Sir B. Brodie's:—“A plan of crushing the stone, by forcing one part of an apparatus against another by the stroke of a hammer, has,” he says, “been lately promulgated, and by a person who previously maintained that the grinding and rasping was quite perfect, though now regarding them as nought. This *percuteur* has a short bend at its farther extremity, one half separates from and slides on the other, and both are provided with teeth. It is very possible to entangle a portion of the bladder betwixt its blades; and, besides, these may bend or break, as they have done in several very bad and abominable cases, in

(i) Lectures on the Diseases of the Urinary Organs, by Sir B. C. Brodie, Bart., F. R. S., 3rd Edition, London, 1842, 8vo., page 374.

which incisions were required to disengage the instrument from the patient's urethra or bladder. A stone may also be laid hold of by the apparatus, and being so hard as not to yield to the impulse of the hammer, may become fixed in such a way as it cannot be freed from the grasp, there being no provision for pushing it out as in the *lithotriteur*."

This eminent authority says, that he is not so sanguine "as to suppose that the breaking up of the stone in the bladder will ever entirely supersede lithotomy. If, by some miraculous interposition of Providence, the deposits from the urine should uniformly be pulverizable, and that bladders be made of less irritable stuff than they are, and if, above all, the affected individuals could only be prevailed upon to apply in due time, then might such pleasant anticipations be entertained, and then might we with some reason hope to see them realized; but as matters now are, urinary concretions must, in a great many instances, be cut out of the bladder. Nor is it a circumstance to be very much deplored, since, in good hands, the patient neither endures so much suffering, nor incurs so much risk, as by the proceedings already detailed. The cure, besides, is far less tedious. The stone-grinders, whilst they conceal their own unfortunate results, endeavour to depreciate lithotomy by blazoning abroad the practice of some unlucky surgeon, who, perhaps, loses four in twelve, or six in twelve, of the patients who come under his knife."

Mr. Liston acknowledges that now "the screw lithotrite can with great propriety and safety be employed in cases in which the concretion has not attained any very large size, and in which also the urinary apparatus is healthy, and tolerably free from irritability. The cases for this operation must be well chosen, and the proceedings conducted throughout with great caution, gentleness, and judgment(*j*)."

(*j*) The Elements of Surgery, by Robert Liston, Professor of Clinical Surgery, 2nd Edition, London, 1840, 8vo., page 643.

Here is the last book which has been published on the subject; it is the work of an intelligent and well-informed physician, and a man of the most unquestionable integrity. I do not give it as an exact representation of the opinions of the operating surgeons of London, because it is altogether opposed to the opinion and practice of Sir B. Brodie, and of several other hospital surgeons of high reputation, and particularly of Dr. White, of the Westminster Hospital. I had the pleasure of seeing that gentleman operate by lithotrity, and I can, with perfect truth declare, that I have never witnessed an operation that was performed in a more masterly manner, or that was attended with more complete success.

The author (Dr. Willis) does not, I believe, draw from any fund of considerable personal experience; but his book contains, at all events, the opinion of a well-informed man and an acute observer. Speaking of the supersedence of the cutting operation, he says, "such a substitute was, in its first introduction, and for some considerable time afterwards, believed to have been discovered in lithotrity. But this is beyond all question a rotten staff, which, leaned upon by all who suffer from stone, will certainly fail five-sixths of the number; nearly one-half will find that it is totally inapplicable to their case; from one-third to one-fourth will fall immediate victims to its determined application: and from one-third to one-fourth will escape to lead miserable lives from diseased bladder, and then die of diseased kidneys: not more than one in three or four of all who were held favourable subjects will find it a safe, effectual, and final remedy for their disease.—The public and professional mind has been singularly abused in regard to the value of lithotrity as a general means of treating stone in the bladder."

This is a terrible picture; nevertheless, I believe if applied to lithotrity, considered and *employed* as a *substitute* for lithotomy, it is not too highly coloured. Mr. Willis supports his opinion

by a reference to what he considers as *authentic* documents (for when *unfavourable* to the operators, and given by themselves, they may be safely so considered). These documents are—1. M. Velpeau's statement of the result of his own operations: "Other excellent surgeons, with heads to plan and hands to execute every the most delicate operation in surgery, but who have not addicted themselves exclusively to lithotrity, have not," he states, "met with even the very moderate success of M. Civiale from the resources of this operation. Some, however, have met with more; among the number M. Velpeau, who has probably been as fortunate as any; and as his experience and candour are greatly to be relied on, I shall give a summary of twelve cases of calculus that were under his own immediate care, and in which he essayed lithotrity(*k*). In the 1st case, lithotrity had to be abandoned on account of the sufferings of the patient, who remained unrelieved; in the 2nd case the patient was cured; in the 3rd he died; in the 4th lithotrity had to be relinquished, after which, lithotomy was performed; in the 5th, the operation of lithotrity was also found impracticable, and lithotomy was had recourse to; in the 6th the patient was cured; in the 7th he was also cured; in the 8th he died; in the 9th he was cured; in the 10th he died; in the 11th he was cured; in the 12th lithotrity had to be given up, and lithotomy substituted. Of the 12 cases, consequently, 5 were cured by lithotrity, (not one in two); in 1 the operation was abandoned, and the patient remained unrelieved; in 3 lithotrity was given up as impracticable, and the patients were cut and recovered; and 3 died of the operation.

5 in 12 is *one in two and a quarter*, nearly, in which success follows the operation of lithotrity.

4 in 12 is *one in three* in which lithotrity is unavailable, — the operation cannot be performed.

3 in 12 is *one in four* in which a fatal result ensues.

(*k*) Med. Operat. tom. iv. p. 653.

“The effect of the operation gone on with in the four cases in which it was abandoned may easily be conceived; it were not saying too much to maintain that in the hands of a man committed to the operation of grinding or crushing, four deaths more would have been added to the list of the mortality, when we should have had five recoveries counterbalanced by seven deaths.

“Other practitioners have, as has been hinted, had still less to boast of than M. Civiale or M. Velpeau. M. Bancal, for instance, who is a warm advocate of the operation, and the author of ‘A Practical Manual of Lithotrity’ (Paris, 1839). Let those who imagine that lithotrity is a pleasant pastime rather than a most serious business which often brings life into jeopardy, take the trouble to peruse M. Bancal’s cases, and then decide between those who would greatly restrict lithotrity and those who would apply it indiscriminately. Among the particulars of these cases he will find mention made of repeated and violent paroxysms of fever, the sequence of severe pain; of retentions of urine; of inflammations of the testes, and bladder, and knee; of treatments protracted through four months, and relief not obtained after all, &c. &c. Among the fourteen cases he will find that in *one* only (Case 2) could the cure be said to be satisfactory and complete; that in *one* (Case 1) after fourteen operations the patient seemed to be delivered of his stone, but was not cured; that in *four* (Cases 3, 8, 9, 10) lithotrity was essayed in vain, but the patients were cut and recovered; that in *four* (Cases 5, 7, 12, 13) lithotrity having been essayed, the patients remained unrelieved and would perish; and that in *four* (Cases 4, 6, 11, 14) death ensued immediately, or within about a year, from the effects of the operation.

““In a grand total of 1003 patients who have come under the hands of the lithotritists,’ says M. Velpeau(*l*), speaking in 1835, ‘616 only have been delivered of their calculi; and

(*l*) “In Rapport et Discuss, sur la lithotritie et la lithotomie, p. 127.”

and 387 have died or have not been relieved. Entering into a few particulars, the same excellent writer informs us elsewhere (*j*), that ‘the patient operated on by M. Civiale at Florence in 1835, was not cured. A merchant of Lyons, a patient from Anjou, another patient from the country, two patients from the department of the Seine and Oise, the husband of a midwife of Paris, a printer, a patient of M. Roux, two patients of mine, a patient of M. Lenoir, Colonel Rankin, an Englishman, another personage of the same country, a patient operated on by Mr. Attenbury, a patient of Mr. Oldknow, a patient of M. Colliex, the patient of Mr. Norris, and others still, all fell victims to lithotrity. It would therefore, I repeat it, be to abuse the public to hold out this operation as free from everything like danger(*k*).’ ”

In the *Dictionnaire de Medicin et Chirurgie*, Art. Lithotrity, M. Bezin says, of two hundred cases of lithotrity, of which M. Civiale has intelligence, performed at Paris, Bordeaux, Nismes, London, Edinburgh, Vienna, Munich, and Philadelphia, hardly one hundred cures are recorded; and here Mr. Willis remarks, that there is no record except the deaths that happen *immediately* after lithotrity—“there is no account of those that happened a few months, hardly of a few weeks after the operation. Were these taken into the reckoning, the number of cures would be woefully diminished, that of the deaths frightfully increased.” “My own knowledge,” he adds, “and more than one unimpeachable authority, would lead me to maintain, that indiscriminate lithotrity was even less fatal immediately, than it is in brief prospective.” Mr. Fergusson, in the *Edinburgh Medical and Surgical Journal*, for 1838, gives the result of seven cases in which lithotrity was performed, of which the following is an abridgment:—

(*j*) “*Med. Operat.* tom. iv. p. 652.”

(*k*) On the Treatment of Stone in the Bladder by medical and mechanical means, by R. Willis, M. D. London, 8vo. 1842.

CASE I. A healthy, middle-aged man underwent repeated operations with the lithotrite, all of which were attended with great pain; he never recovered completely. His present suffering is from chronic disease of the bladder, apparently [certainly] induced by the treatment.

CASE II.—Mr. J. operated on several times with the lithotrite; after a fortnight's treatment, a fragment of the stone could still be touched; but it could not be seized so as to be comminuted. Symptoms of stone soon recurring, he was again operated on, and every tangible portion of the stone removed.

CASE III.—J. W. underwent lithotrity. The operations were all attended with much pain. Nevertheless, the bladder at length seemed clear, and the patient appeared to get well.

CASE IV.—R. B. laboured under symptoms of stone for forty years. An unsuccessful attempt was made to seize the stone with the lithotrite. The patient suffered excruciating pain, which was followed by a long feverish attack. His strength being at length somewhat recruited, he was cut, and a mulberry calculus weighing five ounces was extracted. The patient did well.

CASE V.—The Rev. M. A. subjected himself to lithotrity; but he suffered so much from, and after the first attempt, that it was not considered advisable to proceed. Twelve months after this, the patient was cut, and a 'small stone' removed. He recovered slowly.

CASE VI.—Mr. M., against the advice of Mr. Fergusson, insisted upon being lithotritized. The operation was followed by frequent attacks of irritation and pain in the bladder, which carried off the patient in four days. The fragments of a large stone were found in the bladder, along with another smaller stone which was untouched. No trace of mechanical injury to the bladder could be discovered. *Both kidneys were much diseased*, and the left psoas muscle was converted into a substance like coagulated blood.

CASE VII.—Mr. C. was anxious to have lithotrity performed. From this, Mr. Fergusson dissuaded him. But a professor of lithotrity undertook the case. One operation was performed, and the stone was seized and broken; but the patient suffered so much, that he never could be brought to undergo a second operation.

“In these seven cases, therefore,” writes Mr. Willis, “we see but two recoveries from stone through the means of lithotrity. One man is delivered of his stone indeed, but he is left with a diseased bladder, which is, if possible, a worse evil than the stone. One is dismissed with his stone in fragments still contained in his bladder, and one dies immediately from the effects of the operation. That is to say, we have as good as three deaths in seven cases; for he who escapes from lithotrity with a diseased bladder dies; and he who is unrelieved of stone by one process, and is left beyond the pale of relief by any other, perishes also. Two are cut, lithotrity having failed, and recover. Two recoveries in seven cases, and each of these achieved at the cost of vast suffering to the patient, and certainly with imminent peril to his life!”

Mr. Key's cases in Guy's Hospital Reports are scarcely more favourable. From these, and a great number of unsuccessful instances collected from various authentic sources, Mr. Willis arrives at this conclusion respecting the circumstances in which lithotrity is admissible, and those in which it is inadmissible. ‘Lithotrity,’ he says, “is admissible, *and only admissible*, in cases in which the bladder is perfectly healthy, and in which the stone is small, of the size of a filbert, a shelled almond, or it may be a nutmeg at the utmost; under all other circumstances, it ought to be held impracticable. In other words, lithotrity is admissible where it is estimated that the stone can, at one sitting, be seized and reduced to fragments of sufficient minuteness to be passed by the urethra. No second, certainly no third operation ought ever to be contemplated; *if the patient who has had lithotrity performed on him, is not relieved at*

once, he is in imminent danger of losing his life. Lithotrity, I do not hesitate to say, it has now been fairly tried, and found wanting as a general means of relief for stone. Restricted to the circumstances just indicated, it is a great addition to our surgical therapeia; applied indiscriminately, and as a substitute for lithotomy, and all other means of dealing with stone in the bladder, it is a most fatal present made to humanity."

Now it must be remembered that Mr. Willis draws his conclusion from documents which have reference chiefly, if not altogether, to the original operation with the three-branch instrument, and the drill, as invented, or at least first practised by Civiale;—but even as applied to this operation, *under the limitation so clearly pointed out by Civiale*, his picture is, I should say, too highly coloured, but if applied to the operation as *now* performed with Baron Heurteloup's *percuteur*, I have no hesitation in saying that it is far from being a correct representation of lithotrity; and this I am in a condition to prove upon unquestionable evidence,—evidence which I am not afraid to say is the most exact that has as yet been offered on any disputed point of surgical practice. I propose then, to take a period embracing the last eleven years, and to give a list of every case of stone in the bladder on which I was consulted during that time. I will then give the particulars of each case, including an account of the operation (if any) which was performed for its relief, together with the result of the operation at the time, and the issue of the case up to this day; and finally, the actual state of the patient shall (wherever it is possible) be confirmed by his own testimony. By giving a catalogue *raisonné* of all the cases, whether treated by lithotrity or cystotomy, you will be far better enabled to judge of the description of case to which each operation is respectively applicable, than by the most elaborate generalities.

From May, 1834, to September, 1845, I have had to deal with thirty-four cases of stone in the bladder, of which four

were females, and twenty-nine were males. All were adults, with the exception of two boys, one of ten years of age, and one of six; they have been disposed of in the following way:—

1. Rev. Gideon Ouseley, not operated on, on account of his great age, and the diseased state of the prostate.

Four were sent to Baron Heurteloup, namely, Major Moore, Captain Armstrong, Mr. Castle, and Mr. Rodger. All these cases were operated on by Baron Heurteloup (1); Major Moore, Captain Armstrong, and Mr. Castle were permanently cured. Mr. Rodger was operated on three times by the Baron, within a period of six months; and twice by me, within a period of twelve months: for the last time, four years before his death. He died aged 76, free from urinary complaint. (See his son's letter—Appendix H.)

In the last operation, the detritus was removed (as before stated), by means of the exhausted ball. To this complete removal of the particles, I attribute the immunity from relapse during the last four years of Mr. Rodger's life.

My own Cases.

CASE I. March, 1834.—J. Doyle, of Waterford, aged 38, in perfect health, but a nervous, timid man; had symptoms of stone for three years. A small oxalate of lime calculus was completely removed by two operations. He suffered no constitutional disturbance or local distress from the operation. The stone was caught up but once in each operation. He is still alive and well in Waterford, and has suffered no relapse. [The detritus was here exhibited]. (See Appendix A).

CASE II. May, 1834.—Rev. Mr. Young, aged 68, weighing sixteen stone, had been passing gravel since 1827; ceased to pass gravel fifteen months ago, when symptoms of stone in the bladder made their appearance. The stone measured one inch seven-tenths in diameter. His urinary organs were remark-

(1) See the Baron's work on *Lithotrity*.

ably free from irritability, and his general health was perfect. (*First operation*)—Operated by lithotrity five times at intervals, varying from a few days to a fortnight. He was never confined to his room, and seldom to the house, for *one day* during the treatment. Left town the 18th of August, perfectly well; returned in February, 1835, with a return of symptoms of stone. I found a small calculus in the bladder, which was removed in three sittings. The detritus consisted of uric acid, interlaminated with triple phosphate. He died in the present year, of rupture of the aorta. (See Appendix B).

CASE III. July, 1834.—The Rev. Mr. Druett, aged 59, a man of a highly nervous temperament, and of excessive timidity, had symptoms of stone for the last six years. A large calculus was discovered on sounding. Lithotrity was performed four times, in the presence of several medical gentlemen of this town, and a large quantity of detritus removed. He bore the operations perfectly well, and walked and drove in a carriage during the intervals between them. After the fourth operation, he was called away to the painful duty of attending on his wife, who was attacked with a fatal disease. He continued in constant attendance on her for many months; and after her death, gave himself totally up to grief, and absolutely refused all further surgical aid. He died about a year afterwards, of dysentery, which was then epidemic at Kingstown, where he resided.

CASE IV.—Capt. Maguire, of Prospect Hill, Swadlinbar, aged 71, had gone through the whole Peninsular war; and had been for forty years in the Spanish service; but his constitution was quite unbroken. Suffered great pain from the calculus, but the kidneys and bladder were free from disease. Was first operated on in August, 1834. The stone, which consisted of uric acid nucleus with laminæ of fusible calculus, was removed in four sittings.

CASE V. — Clarke, aged 27, a saddler from Waterford: pale and emaciated; his countenance expressive of long-con-

tinued suffering, was received into the Meath Hospital in November, 1834, with symptoms of stone in the bladder, in the most aggravated form. The disease commenced when he was three years old. The stone, measured by the *percuteur*, exceeded three inches in diameter. The bladder could not retain more than an ounce and a-half of water, which, tested with the litmus paper, shewed the supernatant urine was acid, the mucous deposit alkaline. After a month's treatment in hospital, which considerably improved his health, I determined to operate by lithotrity, with no other view, however, than to break the stone into fragments, that would admit of being afterwards removed by cystotomy. I operated on November the 29th; but could make no impression on the stone with the screw applied to the *percuteur*; I then used the hammer, by three or four smart blows of which the stone was broken; three of these fragments were broken by the hammer in succession; one exceeding two inches, the other two from an inch and a-half to three-quarters of an inch each. The operation was followed by no constitutional disturbance, and was repeated on December the 1st; again on the 4th; on the 8th; and on the 13th;—a large quantity of detritus was discharged after each operation. Two or more large portions of stone were, however, still in the bladder, and I proposed to perform the operation of cystotomy for their removal, when the patient's health should be sufficiently re-established.

Monday, 15th Dec. He is much improved in health; but perspires greatly at night; suffers but little pain; sleeps well; urine clear, with little mucous deposit; bladder can retain six ounces of water. After the fifth operation, which was performed this day, he was sent to lodgings at Rathmines for the recovery of his health, previously to his being operated on by cystotomy.

It is right to observe, that on the occasion of the last operation (in which both the hammer and screw had been used), the stone became lodged between the jaws of the instrument, where it was retained by the bladder closing upon it so firmly

that for a considerable time it could not be dislodged, although the instrument opened freely ; at length it was disengaged with the utmost ease, by passing the finger into the rectum, and pressing laterally on the stone, while the jaws of the instrument were kept open. On attempting to withdraw the *percuteur* it stopped at the outer extremity of the urethra, in consequence of a portion of the calculus (which was as hard as flint), having become impacted between the jaws of the instrument, which not only prevented it from closing completely, but threw one of the blades a little to one side, which so much increased its diameter, that it was necessary to divide the orifice of the urethra to the extent of half an inch, to admit of the instrument being withdrawn without doing violence to the part.

On the 23rd of March, 1835, he had a carouse with some friends, and drank a large quantity of punch and porter ; being thirsty on the following morning, he drank half a pint of raspberry vinegar, diluted with water ; in the course of the day he was attacked with excruciating pain in the bowels, and lived only fourteen hours ; his body was conveyed to the Meath hospital, where the post mortem examination was made in the presence of Dr. Stokes, and the surgeons of the Hospital. It appeared that a rupture had taken place in the greater curvature of the stomach, and its contents, consisting of a large quantity of porter and other fluids, had been poured out into the cavity of the abdomen. The bladder was thickened, but its internal surface was not ulcerated ; there was a thin layer of lymph, containing some calculous deposit, extending for about half an inch round the internal meatus, and a small abscess was formed between the coats of the bladder close to the prostate gland ; a large mass of calculous matter, consisting of oxalate of lime, but divided into three portions, of nearly equal size, each of at least an inch in diameter, occupied the lower fundus of the bladder. [The lecturer here exhibited a drawing of the parts.]

CASE VI.—August, 1836. Henry Bibby, Esq., aged 38, weighing nearly eighteen stone, of leucophlegmatic habit, had symptoms of calculus in the bladder for five or six years. The stone measured, by the *percutur*, two inches and a half in its transverse diameter, and was so hard that the screw could make no impression on it. Mr. Weiss, Jun., was present, and tried the force of his own instrument, but no effect could be produced on the stone until the hammer was used, when it yielded at once; fifteen operations were afterwards performed with the *screw-percutur*, which reduced the stone to the fragments which I now shew you. [Here the lecturer handed round a box, containing at least three or four ounces of fragments of stone, of various sizes, three of which are shewn at p. 24.] One of these large portions became immoveably lodged in the urethra, about its membranous portion; I cut down on it and removed it with a small scoop; I found another fragment lodged behind it, this was also removed; I then passed a female catheter into the bladder, through the opening in the perineum, and found that the lower fundus of the viscus was filled with fragments of calculus. I went home for Sir A. Cooper's urethra forceps, as modified by Sir B. Brodie, introduced them through the wound, and withdrew from the bladder in less than five minutes all these large fragments; this terminated the cure: in a few days the wound was healed, and Mr. Bibby returned to the country. (See Appendix C.)

CASE VII.—Capt. Maguire returned to town in March, 1835, with symptoms of stone in the bladder; I found a stone of nearly an inch in diameter, consisting of the triple phosphate with phosphate of lime; it was easily pulverized in two sittings, and he left town perfectly free from complaint. (See his letter in Appendix D, dated October, 1845.)

CASE VIII.—Henry Kemmis, Esq. had nephralgia calculosa for nine years, accompanied with aggravated dyspepsia; the fits became so frequent as to render his life miserable, and to break down his constitution; in the summer of 1837 he got

a fall from his horse, and almost immediately afterwards felt symptoms of calculus in the bladder; I sounded him in October, 1837, and found a calculus one inch and one-eighth in diameter; I operated a few days afterwards; the stone was pulverized and discharged in three sittings. (See Appendix E.)

CASE IX.—July, 1838. Dr. Sproule, aged 26, greatly emaciated, of strumous aspect, had nephritic pains for six or seven years, and symptoms of stone for sixteen months before he placed himself under my care; he was far advanced in phthisis; the stone was one inch and a-half in diameter; the fourth operation completed the cure; detritus, triple phosphate; died six months after the operation, of phthisis. (Appendix F.)

CASE X.—June 15, 1840. Dr. Enright, aged 35, healthy and robust, had symptoms of stone for three years, calculus the size of a small walnut. 19th, second operation; passed a great quantity of detritus, and the nucleus of oxalate of lime. On the 27th, he returned to the country quite well.

CASE XI.—March, 1841. Second operation on Mr. Young after an interval of one year; broke up a stone about the size of a filbert in three sittings. (See Appendix I.)

CASE XII.—May, 1841. Mr. Gallway, aged 51, an exceedingly delicate and nervous man, passed gravel and small stones since his boyhood, with severe attacks of nephralgia; sounding discovered a large stone; he fainted during the sounding. Operated 24th May, passed as much detritus as would make a stone the size of a large nutmeg. 31st, second operation—passed the remainder of the stone; left town in a few days quite well. [Detritus exhibited. See Appendix G.]

CASE XIII.—Aug. 30, 1841. Mr. S. Waring, aged 35, healthy, stout made, vigorous constitution; I cut his twin-brother for the stone twelve years ago; extracted a small stone from his own bladder nine years ago, by Cooper's forceps; operation followed by acute orchitis. He felt a stone pass down the urethra to the bladder; it stopped in its way for three weeks, and excited great constitutional irritation; it dropped into

the bladder three days ago ; this day I seized the calculus and crushed it twice ; he passed at once thirty grains of detritus. The stone was formed of cystic-oxyde, a proof that it is mis-called "cystic," as there was evidence that this calculus dropped from the kidney into the bladder but a few days before it was removed.

CASE XIV.—Sept. 3, 1841. Mr. Rodger, aged 71, a hale man for his time of life ; had been three times operated on by Baron Heurteloup ; had paralysis of the bladder, immense prostate, urine muco-purulent and bloody ; the stone was two inches in diameter ; I broke it up in three operations, and washed out the bladder with evacuating catheter. Second operation, Sat. 11th.—Some pieces stuck in the passage, and some were withdrawn by the eye of the catheter. 27th.—The scoop was repeatedly introduced and withdrawn, charged with detritus. Oct. 1.—Mr. Liston present ; exhausted ball used with success. The sixth operation completed the cure. (See Appendix H.)

CASE XV.—1842. Mrs. ——— ; I removed four or five small stones [shewed them], by dilatation ; having previously introduced the lithotrite, and crushed one larger one.

CASE XVI.—1842. Mr. Waring : second operation. Felt a few days ago the symptoms with which he was so well acquainted, of a calculus passing from the kidney to the bladder ; suffered excruciating pain in the left iliac region for three days, while the stone was lodged in the lower part of the ureter ; felt immediate relief when it dropped into the bladder ; a single operation was sufficient to break up the stone, which was more than a quarter of an inch in diameter ; and, like the former one, consisted of the cystic oxyde. I saw Mr. Waring in the month of October, 1845, he had continued free from any attack of calculus.

CASE XVII.—March 19, 1843. ——— Clark, Esq., aged 48, a healthy man, but suffering most acutely from stone in the bladder ; found a stone the size of a large nutmeg ;

removed by two operations; left town apparently well, and continued so for two months: returned, with symptoms of calculus. Two operations removed every trace of stone; the detritus consisted of pure uric acid. He came to town Nov., 1845, with irritation in the bladder more acute than ever; on sounding with the ordinary sound, I felt a stone lying against the very orifice of the bladder; the examination, although short, and conducted with the greatest gentleness, was followed by vomiting and great local irritation, which, however, subsided in two or three days by rest, the hip-bath, and opiate enemata. On the 10th, introduced catheter No. 9, which rather afforded relief; again on the 12th, 14th, and 17th; each introduction relieved the irritation; operated on the 18th, found the stone to be one inch and a-half in diameter; could not crush it with the screw; broke it with great ease with the hammer; it proved to be formed of triple phosphate; no considerable irritation followed the operation; about 31 of detritus was discharged. The stone, which was broken up in the year 1843, consisted of pure uric acid; the detritus which has been passed on the present occasion consisted of triple phosphate; during the interval between the operations, Mr. Clarke had been drinking freely of the Vichy waters; could this have caused the alteration in the composition of the calculus?

CASE XVIII.—Nov. 1843. J. Lynch, aged 22, a smith in Mr. Watt's forge, a healthy, vigorous man; small stone, broken up in one sitting; while intending merely to sound him with the *percuteur*, I caught up the stone, which stuck in the slot of the instrument, and could not be disengaged without being reduced to fragments.

CASE XIX.—Nov. 1844. Miss ———. Passed a bent wire hair-pin nearly four inches long into the bladder; a large stone was found in it, which was removed by a combined operation of urethrotomy and lithotrity. The urethra was divided directly upwards (as recommended by Dubois), to the depth of one-eighth of an inch, by means of an instrument constructed

for the purpose. The passage was then slowly dilated, a forceps was introduced into the bladder, the stone was crushed, and a considerable portion of it extracted. In a second operation, the hair-pin itself (with a considerable quantity of calculous matter which had been formed on it) was extracted by the same means. The young lady continues free from complaint this 12th of December, 1845, and *without the slightest degree of incontinence of urine*. I assisted Mr. Cusack at a similar operation a few weeks since in Stevens' Hospital; he used the same instrument, and the result was similar; the girl left the hospital with perfect powers of retention.

CASE XX.—Oct. 1845. Robert Jordan, aged 60, had symptoms of stone for the last two years; on sounding, found a stone one inch one-eighth in diameter. First operation.—Broke up the calculus with Oldham's instrument, and extracted detritus with Civiale's duckbill instrument. Second operation.—Case transferred to Mr. Smyly, who broke up three fragments, each measuring an inch in diameter; on the 8th, operation repeated; and again on the 12th; 16th, dismissed cured; remains free from disease.

LITHOTOMY.

CASE I.—Oct. 4, 1835. D. Mullin, aged 10; had a stone the size of a large walnut, which was removed by the lateral operation; stone, uric acid; cured in twenty days.

CASE II.—Meath Hospital, 1835. Operated on Richard ———, a boy, aged 10; some urine passed through urethra on the second day; never had an hour's uneasiness; left the hospital on the twenty-second day.

CASE III.—Meath Hospital, 1836. Operated on J. Behan; the stone filled the bladder, of which it formed a cast; I cut *on the gripe*, as a staff could not be introduced into the bladder; he is still alive and well.

CASE IV.—Royal Infirmary. James Blockage, aged 24, had a very large stone: exceedingly irritable bladder; kept him under preparation for nearly three months; introduced the

staff three or four times a week ; no bad symptoms ; cured, and rejoined his regiment.

CASE V.—Meath Hospital, April, 1838. John Wilson ; highly irritable subject ; jumped like a salmon when the staff was introduced ; prepared him for a month before operation by frequent introduction of the catheter ; had hip baths and opiates ; never had a threatening symptom.

CASE VI.—Private case, 1840. Master Cummins, aged 6 ; lateral operation ; cured. [His stone which the lecturer exhibited is shewn by fig. 4, page 53.]

CASE VII.—March, 1842. Major Percival, aged 51, of a slight form and exceedingly pallid, had been wounded by a musket ball across the loins at the storming of St. Sebastian ; the spinous processes of two of the lumbar vertebræ had been carried away. For many years past has suffered attacks of pain in the loins, with pain and difficulty in making water, which he attributed to stricture of the urethra, and for which latter affection (which existed in a considerable degree) he had been under treatment in the country. While treating him for the stricture, I discovered a large stone in the bladder ; the attempt to dilate the urethra caused great constitutional derangement, attended with profuse cystorrhœa, loss of appetite, diarrhœa, and extreme exhaustion ; in this state he returned, in the month (I think) of February, to the county of Wexford, where he quite recovered his health, and returned to Dublin in the spring of 1843. In such a case lithotrity was not to be thought of, I operated therefore by cystotomy on the 10th of April, 1843, assisted by Messrs. Cusack, Smyly, and Hamilton ; the stone was unusually large and rough, so large in its longest diameter that it could not have been extracted through the lower opening of the pelvis, it was necessary therefore to change the hold of the forceps, when the stone was easily extracted. He had a particularly favourable recovery, and on the 30th of April the whole of the urine was discharged through the urethra, and the Major came down to the drawing-room and dined with his family. He continued to walk about the

house until the 2nd of May, when he was attacked by severe pain in the region of the left kidney, and in the corresponding testicle, which suppurated nineteen days afterwards. The disease, which probably originated in the kidney, continued to break down the constitution, and he sunk from exhaustion on the 1st of July, 1843.

CASE VIII.—August, 1842. Honor Purcell, aged 8 ; had symptoms of stone since her infancy ; I removed a stone weighing upwards of an ounce, by cystotomy, or rather urethrotomy, dividing the urethra directly upwards to the extent of one-eighth of an inch, and then dilating it with Weiss's dilator to such an extent as to admit the forceps. The stone measures one inch in its shortest and one inch three-quarters in its longest diameter.

CASE IX.—Meath Hospital, 1843. A little boy, 8 years old, rickety, and a dwarf ; highly irritable, had a very large stone : recovered without a bad symptom.

SUMMARY.

It would appear, then, that the thirty-five cases of stone in the bladder which have applied to me for relief between the months of March, 1834, and November, 1845 ; have been disposed of in the following way.

Two—the Rev. Gideon Ousley, aged eighty-one, and a gentleman who resided at Coolock, but whose case I did not note—were set aside as unfit for any operation ; both had diseased bladder and kidneys.

Four were sent to Baron Heurteloup, and were cured by lithotrity. See the Baron's Treatise on Lithotrity, in which those cases are detailed.

Twenty were operated on by me (by lithotrity) ; and nine ditto by cystotomy. Total, 35.

Of those operated on by lithotrity all were adults.

Of those operated on by cystotomy three were under twelve years of age, two boys and a girl.

Six were adults and males.

All that were operated on by lithotrity were cured, with the exception of Clarke, and in his case the operation cannot be said to have failed, because it was performed for the express purpose (as stated in a clinical lecture which preceded the operation) of bringing the stone into a condition to be removed by lithotomy, and this the operation fully effected; the man lived for three months after the last operation by lithotrity, and died of rupture of the stomach caused by an excess in drinking.

In the case of the Rev. Mr. Druett, the operation (as far as it went) was perfectly successful; the cure was not completed from causes that had no reference to the operation.

All that were operated on by cystotomy recovered. Major Percival, it is true, died three months afterwards, of inflammation of the kidney and testicle, but the wound had nearly healed. It is right to observe that six months previous to the operation, Major Percival had suffered a similar attack of inflammation of the kidney, attended with supuration, which reduced him to such a degree that no expectations were entertained of his recovery.

It appears then that of the thirty-three patients operated upon, nine only were submitted to cystotomy (about one-fourth); it is not, however, to be inferred from this statement that out of any given number of cases of calculus only one-fourth should be operated on by cystotomy; such a conclusion would be manifestly erroneous, for if ten or twelve of the twenty-four operated on by lithotrity, instead of being adults, were children and old persons, the proportions might probably be reversed, and the cases suitable to lithotrity might be reduced to ten or twelve, and the difference placed to the credit of cystotomy—and this affords a striking illustration of the utter uselessness (not to say absolute mischief) of drawing any inference favourable or unfavourable to lithotrity from a statement (however accurate) of the mere *numbers* operated on, without refe-

rence to the *circumstances* of each particular case. It is on this account, that I have ventured on the somewhat unusual course of giving a detailed and authenticated list of every case of calculus that has been presented to me within a period of eleven years (commencing at the time at which I began to practise lithotrity,) with the circumstances of each case and the result, up to the present day. The numbers (I admit) are very far from being sufficient to justify any general conclusion being drawn as to the respective values of the old and new operations, but they are sufficient to establish some points of great practical importance upon which surgical opinion is still much divided.

1st. It is abundantly proved that lithotrity may be successfully applied to cases which are considered to be beyond the domain of cystotomy. I believe the most intrepid cystotomist would have hesitated (if he did not at once refuse) to operate by cystotomy, in the cases of Clarke and Bibby, of Doctors Sproule and Castle, for it is as nearly as possible certain that in these cases the operation would have proved fatal. The Rev. Mr. Young, aged 68, and weighing sixteen stone, would (it will be admitted) have been a very unfavourable case for cystotomy; he was, however, relieved of his stone (a very large one) by lithotrity, without suffering one hour's confinement.

2nd. It has been proved that, in certain cases, to which neither cystotomy nor lithotrity are applicable singly (see cases of Clarke and Bibby), the combination of the two operations (and especially the combination of lithotrity with lithectasy) may be employed with success (see case of Mr. Bibby).

Finally. It is proved that when the urinary organs are in a healthy state, stones of great hardness, and upwards of an inch and a-half in diameter, may be removed by lithotrity with safety. It by no means follows, however, that, in such cases, lithotrity is *always* to be preferred to cystotomy; the choice of the operation must often be determined by various conside-

rations (not purely surgical) connected with each particular case, and having reference to the operator as well as to the patient. A very skillful and successful cystotomist may not have sufficiently practised lithotrity to qualify him to perform it with the same chance of success with which he might perform cystotomy; and a patient who might be able to make up his mind to suffer one operation, however painful or dangerous, might be quite unequal to the effort of submitting to several comparatively slight ones.

But the important question still remains to be determined; a question upon which the cases I have just detailed throw no sort of light—namely, what are the circumstances of the case which forbid lithotrity? Here I am obliged to leave the safe path of personal experience, and trust partly to conjecture founded on the principles of general pathology, and partly to the experience of others. In this difficulty I find great assistance from the consummate knowledge, founded on a vast experience, of M. Civiale. It may be stated, as a general fact, that, in calculous patients the bladder is not unfrequently found in one of two opposite states, which, if they do not absolutely forbid lithotrity, render its application in the highest degree dangerous, and (as a remedial means) far inferior to cystotomy. The bladder, like the stomach and the heart, has not inaptly been termed a “hollow muscle,” which is constantly receiving and transmitting a fluid; like the heart, it is liable to hypertrophy, or thickening of its walls, diminution of its capacities, and increased irritability, or power of contraction; like the heart, too, it is subject to a thinning of its walls, an increase of its capacity, and a diminution of its contractile power: these opposite conditions are easily recognized, and are familiar to every surgeon of experience, but to M. Civiale is due the merit of having shewn the influence which these states of the bladder exercise on the success of lithotrity. In the hypertrophied bladder the patient is harassed by the almost incessant desire to pass water; the quantity discharged seldom

exceeds an ounce, or an ounce and a half, the pain, especially in expelling the last drops, is excessive, the urine is always high-coloured, and deposits on cooling a mucous sediment, frequently tinged with blood. In such a case the mere operation of sounding, or even of injecting warm water into the bladder, may excite a severe, or even fatal inflammation of the organ. I have knowledge of two cases in which the injection of tepid water into the bladder (though done with the utmost care) proved fatal in three days, by exciting acute inflammation of that organ; on examination after death, the mucous membrane was found inflamed, thickened, and corrugated. In such a state of the bladder, it is scarcely necessary to say that lithotrity is not to be thought of.

The opposite state in which there is atrophy or wasting of the walls of the viscus, with increase of its capacity (M. Civiale justly observes), exercises a great influence on the sensations which are caused by a calculus as well as upon the manœuvre of the operation, and on its result; it masks all the symptoms of stone, or renders them different from those we are accustomed to observe. As the bladder never empties itself completely, its walls scarcely come in contact with the stone; the consequence is that the pain and the peculiar sensation in expelling the last portion of the urine (the most certain of the *rational* symptoms of stone) are wanting. Exercise does not cause those bleedings from the bladder, and those painful spasms, of which calculous patients, under other circumstances, complain so much; the urine is loaded, foetid, and alkaline, the debility increases daily, the pulse is quick and weak, and there are frequent chills, followed by heat flushes—the bladder is in a state of low inflammation, with diminished vital powers, and the kidneys generally participate in the disease. In such a state of things, M. Civiale justly considers that the operation of lithotrity would almost certainly prove fatal; but I believe the same might be said, with equal truth, of cystotomy. He thinks it of so much

importance, with reference to lithotrity, that this condition of the bladder should be clearly understood, that, in addition to the signs above mentioned, he gives several others that are deserving of the utmost attention. Time will not admit of my entering more into detail on this important subject; I must content myself, therefore, with referring you to M. Civiale's "fourth letter on lithotrity," and to his "*Parallele*," p. 112.

This morbid thinning and atony of the walls of the bladder must not be confounded with paralysis or want of action from defect of innervation; this last state furnishes no objection to the application of lithotrity, provided sufficient means be employed to rid the bladder of the fragments of the broken calculus. This is well illustrated by the case of Mr. Rodger, whose bladder was so completely paralyzed that, for several years, he had been obliged to draw off the urine by the catheter, four or five times in the day.

In addition to the morbid states of the bladder, so well described by M. Civiale, I should say that a contracted and irritable urethra, an enlarged and irritable prostate gland, and, above all, a constitution prone to sympathize with a disordered state of the urinary organs in general, and with the urethra in particular, a large and very hard stone, or numerous small ones, forbid the application of lithotrity (*a*), and bring the case within the proper domain of cystotomy.

Lithotrity is in general considered as inapplicable to children under fifteen or sixteen years of age, on account of the narrowness of the urethra in early life, and the comparative safety of cystotomy in young subjects; but considering that in children the urethra is (except at its external orifice) highly dilatable, and that the most violent symptoms of calculus in the bladder are often created by the presence of a

(a) "Quand la pierre est à la fois volumeneuse et dure, la cystotomie mérite généralement la préférence sur la lithotritie, dont alors, comme je l'ai dit, l'application devient difficile, le manœuvre douloureuse, et le résultat incertain." — *Civiale*.

stone so small that it might with the greatest facility be crushed, and the fragments extracted, at a single operation, I cannot but hope, that at no distant period the operation of cystotomy will be superseded by lithotrity, in a great proportion of cases of calculus in children. Here are four calculi,



which I have extracted from infants under six years of age. I think they are the last of the kind that I shall either extract, or see extracted, by that painful and dangerous operation. But a few days since Mr. Cusack performed cystotomy on a child of three or four years of age, in Steevens' Hospital, the moment he divided the membranous part of the urethra, the stone, which was not so large as No. 2, started out into the external incision, and was removed by the fingers of the operator, only the membranous part of the urethra had been opened, the prostate and bladder were untouched. What a triumph it would have been for lithotrity, and what an advancement into operative surgery, if lithotrity had been applied to this case. The bladder not having been opened the wound was healed in three or four days, and the child was perfectly cured. Nevertheless it is impossible not to regret, for the sake of the advancement of operative surgery, which is immeasurably improved by everything which renders operations more safe and less painful, that lithotrity had not the merit of this cure.

In the foregoing brief review of lithotrity, I have not attempted to institute any comparison or "*parallele*" between this operation and cystotomy. I think it better, in the present state of our knowledge, to consider lithotrity and cystotomy not merely as different means directed to the same end, but as

different operations applicable to different forms or states of calculous disease ; an extended experience will every day tend to determine more and more clearly, what those forms or states of disease are, to which each of the operations is respectively applicable.

How much the publication, from time to time, of the personal experience of those hospital surgeons who practise both operations, must tend to advance our knowledge of this most important branch of surgical practice, need not here be insisted on. It cannot (I trust) be for a moment supposed, that in taking a more favourable view of lithotrity than has been taken by some of the most distinguished surgeons in London and Paris, I have any desire to raise the character of the new operation at the expense of the old one ; such a course upon my part would be equally absurd and ungrateful. I abstain from the ungracious task of making reference to the result of my own practice in lithotrity ; its results are known to my contemporaries, and they will do me the justice to believe that I can have no motive for decrying cystotomy.

The object of this lecture has been to contribute some facts towards the establishing a measure, whereby the real value of lithotrity may be estimated, and I have endeavoured to do so in the spirit of impartiality, so well expressed in the Report on Lithotrity, presented by MM. Percy and Chaussier to the Royal Academy of Sciences in Paris, "*voulant tenir un milieu entre l'enthousiasme que exagère tout et la prevention qui cherche a tout rabaisser ;*" and I am sure you will agree with me, that if lithotrity is to be considered as "a fatal gift to humanity," it must in this respect be placed in the same category with blood-letting, mercury, and opium—fatal gifts indeed in the hands of ignorance and rashness, but a blessing and means of life in the hands of experience and discretion.

The following cases of the successful application of lithotrity by other practitioners in Dublin, may, with propriety, be subjoined to this paper, viz. :

Two cases by Mr. Smyly, and one by Mr. Hutton.

In Mr. Smyly's first case a small stone was completely disintegrated in one sitting, and the fragments subsequently expelled with the urine.

Peter Purcell, aged 30, a shoemaker, residing in Kevin-street, presented himself at the dispensary of the Meath Hospital, on June 16th, 1840, complaining of retention of urine; on introducing a silver catheter to draw off the water, the presence of a stone was detected. It appeared, from the patient's statement, that he had laboured under the symptoms of stone in the bladder for a year, and that the affection was brought on by the use of sour wines, when serving as a soldier in Spain, two years since.

On the 17th (assisted by Mr. Dillon), Mr. Smyly seized the stone, which measured nearly half an inch in diameter, and found no difficulty in breaking it; about twenty grains of detritus came away with the instrument, which on analysis, proved to be oxalate of lime; the rest of the detritus was expelled with the urine, but was lost through the carelessness of the patient.

On the 19th, this patient was sounded by Sir P. Crampton, and other surgeons, but no evidence of stone could be detected.

Nov. 27th, 1841. It is now nearly a year and a half since the operation, and the patient has been perfectly free from urinary irritation ever since.

Mr. Smyly's second case was cured in five sittings, which were held in three weeks.

Robert Jordan, aged 60, has had symptoms of stone for the last two years. On examination, a calculus was found measuring an inch and one-eighth in diameter.

Sept. 24, 1844, Sir P. Crampton broke the stone, and

removed about twelve grains of detritus ; seven grains were collected from the urine afterwards.

Oct. 1st. Mr. Smyly broke up three fragments, each measuring an inch; about a scruple of detritus came away.

8th. Operation repeated; fourteen grains of detritus removed; has had some incontinence of urine since.

12th. Operation repeated; thirty-seven grains of detritus.

14th. Only a very small particle of stone could be detected, which was taken away.

On analysis by Dr. W. Moore, the stone was found to consist of oxalate of lime.

15th. He was dismissed cured; this patient has been frequently seen by Mr. Smyly, and he remains free from all symptoms of stone.

Mr. Hutton's Case.—November 7th, 1845.—“ The case in which I operated by lithotrity was a man aged thirty-five, who had laboured under symptoms of stone from the age of ten years, and was discharged from the navy on this account. At fourteen years of age and from that period until he came under my care, he had suffered more or less from symptoms of calculus. On the 4th of February, 1835, I injected the bladder: first employed lithotrity with Mr. L'Estrange's instrument, and from this period to the 10th of April, 1835, he underwent the operation six times. On the 15th of April, he was discharged from hospital perfectly relieved from all symptoms of stone. I saw him six months after this, when he appeared greatly improved in his general health, and he assured me he was altogether free from symptoms of calculus and quite well. The stone was readily grasped on every occasion, and several fragments came away after each operation. It was oxalate of lime, and not so large as might have been expected after such a long continuation. I should mention that after one operation he had slight inflammation of one testis, which caused some little postponement of the succeeding trial.”

APPENDIX.

Sir Philip Crampton has placed in our hands a number of documents relating to the cases mentioned in the foregoing essay, from which we make the following extracts.—(Ed).

A.—Dr. Mackesey writes from Waterford, in 1839: “The man named Doyle that I sent up to you from Waterford some years ago with calculus in the bladder, and on whom you successfully operated by lithotrity, has enjoyed good health since his return, and does not suffer from any irritability of the urinary organs.”

B.—From the Rev. John Young, of Ballygawley, county Tyrone, 1839. “I think I may safely say, that I am in as good health as any gentleman of my mature age, of his sixty-fifth year, has a right to expect. I occasionally pass some red sand in the water, but I suffer no sort of inconvenience from my old complaint.”

C.—From Mr. Bibby, of Kilkenny, 2nd November, 1845: “I am happy to have to inform you, that I have not had any return of the complaint for which you operated on me so successfully in the year 1836.”

D.—From Capt. Maguire, of Prospect Hill, Swadlinbar, October, 1845: “I have not had the slightest return of pain from calculi since you last operated on me; but for you I should have been long since dead from the excruciating pain I was then suffering.”

E.—From H. Kemmis, Esq., of Castle Dawson, December 18, 1845: “In answer to your inquiries respecting the operation(lithotrity) you performed on me, now upwards of eight years ago, I can attest its complete success, inasmuch as from the time of its completion, I never suffered any inconvenience of any kind, either resulting from the operation itself, or from the disease it was intended to remove. None of the distressing symptoms which preceded the formation of the stone, which occurred periodically for some years previously, having taken place since I was relieved by your skill; and no new

formation having taken place, I have suffered no pain in the parts formerly affected since that time."

F.—From Dr. W. J. Sproule, of Dunfanaughty, October 14, 1838: "I stood the journey down very well; my old acquaintances were astonished to find me looking so stout. * * * I am in a more comfortable state than I have been for the last seven years; in fact I am perfectly comfortable and happy, and sleep seven or eight hours without having occasion to pass water; and yesterday I travelled fourteen miles, and there was no deposit in the urine on the following morning."

G.—From Michael Henry Gallway, Esq., of No. 8, Warren's Place, Cork, December 12, 1845: "In reply to your kind inquiry relative to the effect of the operation which you performed on me, by lithotrity, in the month of May, 1841, I have the satisfaction to inform you, that since that very fortunate operation to the present moment, I have had no return of that painful disease, nor have I had, since boyhood, so little tendency to gravelly affections of any kind."

H.—From W. R. Rodger, Esq. of Limerick, 23rd of December, 1845. "My late respected father first felt symptoms of calculus in the summer of 1829. He went to London in February, 1830, and was operated on by Baron Heurteloup with the *drill*. Returned home the beginning of April; went over again in September following, and was operated on by the Baron with the *hammer*; left London about the end of October, and consulted you some time after for inflammation of the bladder; continued unwell all the winter; went over again to London in June, 1831, and was then *perfectly cured* by the Baron, both of inflammation and stone. He enjoyed perfect relief from this distressing complaint until the summer of 1841, when, in the beginning of August, he went up to Dublin, and consulted yourself; you then operated on him, and relieved him, *through mechanical means*, of a very large calculus, some inflammation set in, but he returned home perfectly well in October. He again went up to Dublin in January, 1842, when you most fortunately and successfully re-

lieved him of all the remaining particles, and he returned home at the end of the same month *in perfect health and spirits*. Fearing, from the enlargement of the prostate gland, some symptoms of returning calculus, he paid you another visit in the summer of 1843, when, after a most *minute* examination, you declared the bladder free from any deposit—which was perfectly verified, as he did not experience any annoyance till his decease, which took place in the month of June, 1844.”

I.—From Mr. Young’s second letter, of the 6th of August, 1845: “I am happy to say, that I find myself better and freer from every complaint than I have been for these last four years. All mucus and all irritation has entirely ceased, and the frequency of making water is no longer a nuisance”(b).

ART. II.—*On the Law which regulates the Relapse-Periods of Ague.* By ROBERT J. GRAVES, M.D., M. R. I. A.

HAVING noted with much anxiety and accuracy the course of a quartan ague for twenty-seven months, I constructed a table for the purpose of obtaining a connected view of the number and dates of the fits. This table had been made for some time before I discovered that it contained *data* which authorize us in concluding that the law regulating the periodicity of agues applies not only to the succession of paroxysms, but is extended to the free intervals between them—in other words, that the same law of periodicity which governs the disease while it occasions fits, continues likewise to preside over its latent movements during the interval when no fit occurs, and thus the true periodic rate is carried on, though as in a clock from which the striking weight has been removed, the usual signal does not mark the termination of each certain definite portion of time.

(b) It is but right to remark, that since the publication of Mr. Liston’s views upon Lithotrity, expressed in his *Elements of Surgery* in 1840, and quoted at p. 29 of this paper, he has very much modified his opinion with regard to the applicability of this operation.

This law, now for the first time brought to light, exhibits a new example of the tenacity with which periodicity clings to a disease, when once firmly impressed on it, and recalls to mind a very similar phenomenon observed with respect to the catamenia, which, having been suppressed for many months, not unfrequently reappear on the very day on which the monthly period would have occurred, had no such suppression taken place.

The case I am about to detail possesses likewise several features of practical interest, and serves to shew, that a very obstinate species of ague, accompanied by various complications, may be perfectly cured by the use of quinine alone; and that very large quantities of that powerful medicine may, under such circumstances, be taken not only with impunity but with advantage. A boy of good constitution and eleven years of age had been at a boarding school in Kent, during the spring and summer of 1842, and remained in perfect health all that time. In autumn he was very imprudently allowed to bathe daily in a pond of stagnant water, and he frequently continued in the water for more than an hour. In the November following, feverish symptoms exhibited themselves, and he was several times an inmate of the school infirmary: his disease was considered to be a frequent return of feverish attacks from cold and indigestion; and accordingly he was treated by confinement and low diet, with mercurial and saline purgatives. Notwithstanding these remedies, the disease frequently recurred, nor was its true nature even suspected by the medical attendant. He arrived in Dublin on the evening of the 16th of December, 1842, and the moment I saw him I concluded, from the peculiar tinge of his complexion, that he was affected with ague. He had a slight cough, but in other respects was tolerably well, although fatigued by his journey: he slept well that night. On the 17th of December he made a good breakfast and dinner, but after dinner he sickened: he slept well during the night, and awoke at eight o'clock on the morning of the 18th. He was hot and feverish all day until

about eight o'clock in the evening: the paroxysm of ague thus lasting twenty-four hours. He got at 4 p. m. 5 grains of sulphate of quinine. 19th. Slept all last night, free from fever; sulphate of quinine repeated. 20th. No fever: cough much better; third dose of quinine: 21st. He slept well during the night; he awoke free from the fever, which however returned at 11 o'clock, A. M.; the fit lasted eight hours. The quinine was repeated. 22nd. The dose of quinine was increased to $7\frac{1}{2}$ grains, and continued for some days. There was no return of the fever until January the 8th, on which day he had a slight fit. We here remark for the first time, that the paroxysms occurred on the very day on which it would have occurred had it been going on regularly from the 21st of December; for then the days should have been the 24th, 27th, 30th, and 2nd, 5th, and 8th of January; in other words, the periodic time of the disease, while it exhibited no evident paroxysm, was the same as when it did. The quinine was resumed on the 8th of January, and $7\frac{1}{2}$ grains of it given daily for four days. The disease now disappeared for a time, but on January the 21st he had a slight fit; and it is to be remarked, that this date does not correspond with the day upon which it should have reappeared, viz. the 20th, had its latent periodic time remained the same, as may be seen in the table. To proceed with this particular part of our subject:—paroxysms occurred on the 21st, 24th, and 27th of January, and then ceased, in consequence of the exhibition of quinine, until the 10th of March. Now reference to the table will shew, that had the disease observed the quartan period, from the 27th of January, it would have reappeared on the 10th of March. Fits occurred on the 13th and 16th of March, and then ceased, under the influence of medicine, until the 30th of April, the very day which corresponds with the quartan period had it gone on regularly from the 16th of March, as may be seen by reference to the table. The fits occurred again on the 3rd and 6th of May, and were then arrested by the use of quinine,

again to reappear on the 24th of May, the very day the fit was due: but of this more hereafter. We have seen that the fit of the 21st of January was slight, and that on the 24th was severe, commencing at three, P. M. The headach was very bad: the fever continued, more or less, to the 25th, and his appetite was not restored until the 26th. On the 27th, about three, P. M., another fit, much less severe: scarcely any headach: less heat of skin, nausea, and restlessness: passed a good night, and was perfectly well at breakfast on the 28th.

From the 18th of December to the 2nd of January, he took 75 grains of quinine; from the 8th to the 12th, 30 grains; and from the 21st to the 30th, 60 grains; total amount, 165 grains. The fit did not return on the 30th of January, and he seemed in every respect perfectly well on that day. Medicine was now discontinued. He had not the slightest indication of disease until Friday, March the 10th. The fit was then, however, so slight, that I was doubtful concerning the actual occurrence of a relapse, and therefore did not resume the quinine, until a very severe aguish paroxysm on the 13th of March removed all doubt upon the subject. It is particularly worthy of notice, that the boy exhibited not the slightest feeling or precursory symptom of indisposition, and had a very healthy colour up to the very beginning of the paroxysm on the 10th. This is not usual, nor did it often happen in the case before us; for, as the disease became more deeply rooted, the return of the fit was invariably preceded, for a few days, by an unhealthy aspect and a pale colour. Still the sudden manner in which the ague fit sometimes commenced is very remarkable, for I have seen this patient sit down to a meal with a good appetite, and he had scarcely half-finished when all at once he felt indisposed, every trace of appetite vanished, and the aguish rigor set in. I particularly remarked too, that there was no derangement whatsoever perceptible in his sleep, urine, alvine evacuations, tongue, or the functions of any other organ, during the twenty-four hours that preceded

the relapse of the 10th of March. At later stages of the complaint, this freedom from functional disturbance before the actual fit was not so clear, but on the contrary, the boy usually felt a little unwell for a day or two before the fit commenced.

These facts shew us that ague is at first purely periodic, the health being totally unaffected during the interval between the attacks, but as the disease becomes rooted, as I have said before, in the constitution, the intervals are rendered less purely healthy. On the 14th of March he again began the quinine, in daily doses of ten grains. The fit of the 13th had been very severe; that of the 15th was milder, and, as I already stated, the ague then ceased, not to reappear until April the 30th. From the 14th of March until the 17th he took ten grains of quinine daily, and then continued the medicine in gradually decreasing doses, until ninety grains had on the whole been taken during this month. The paroxysm of the 30th of April was slight but well marked; that of the 3rd of May was sudden, and attended from its commencement with raving and hallucinations, which were very alarming, and lasted for two hours until the hot fit was established. This fit was not perfectly solved sooner than sixteen hours, and created so much uneasiness in my mind that I resolved, contrary to my previously formed resolution, to give him quinine in order to prevent another attack, or at all events diminish its violence, fearing that the disease, if unchecked, might pass into its worst form, the apoplectic or *febris intermittens perniciosa*. Accordingly, on the 4th, 5th, and 6th of May he took forty grains of quinine, notwithstanding which he had a fit, as I before mentioned, but slight, and without any cerebral symptoms, on the 6th. The following day he went, by Dr. Stokes' advice, to reside in a cottage most favourably situated over the sea, on the high cliffs of the south side of the hill of Howth; and on the 9th he took, at 2, P. M., a draught containing ten drops of laudanum and twenty of sulphuric ether. He spent his time chiefly in the open air, and his

appearance became much more healthy. He remained quite free from the disease, was active, strong, and cheerful, with an excellent appetite and good spirits, and returned to Dublin on the 23rd of May, having passed seventeen days free from a paroxysm

On the 21th, at 4 P.M., he had a slight paroxysm, and on the 27th, at the same hour, another, which was well marked but not severe, for he slept well the whole night, and, though he had but little appetite next morning, he was in every other respect quite well. We were led, probably erroneously, to attribute the comparative mildness of this fit to a draught containing camphor mixed with sweet spirits of nitre and seven drops of laudanum, taken at 1, P.M., and repeated at 3, P.M., the latter followed by a cup of hot coffee. On the 28th of May he again went to Howth, and was directed to take an opiate draught on the 30th as before, and to go to bed at three o'clock, and by means of hot tea to try to prevent the fit. Notwithstanding these measures the fit came on at the usual hour, on the 30th of May, and, though not of long continuance, was severe, and at its commencement was accompanied by spectral illusions. Dr. Stokes and I now determined to lay aside medicine and try what the pure air of Howth, aided by fine weather and constant out-door amusement, would do. The event did not justify our expectations, for he had fits on the 2nd, 5th, 8th, 11th, and 16th of June, and these fits came on with great regularity about 3, P.M., some of them slight and interrupting his amusement only for an hour or two, but others severe, and, though not lasting more than six or eight hours, yet attended with headach, nausea, vomiting, and purging, which affections seemed to relieve the head. As he had eight successive fits and the disease evinced no inclination to subside spontaneously, we resolved again to try the sulphate of quinine, and on the 15th gave him five grains twice, on the 16th three times, and on the 17th twice before 10 o'clock, in order to interrupt the fit; on the 18th twice, on the 19th

three times, and on the 20th twice; so that he took seventy grains during these six days. The result of this treatment was a milder fit on the 17th, and none on the 20th. Thus the plan of giving no quinine had been tried from the 6th of May to the 15th of June, and it is observable that after this uninterrupted series of nine fits, the seventy grains of quinine which were required to stop the fits produced only an interval of eleven free days, from the day the medicine was last exhibited, viz. the 20th of June; for on the second of July he had a slight but well-marked shadow of a fit, consisting of paleness, collapse, and some headach, short in continuance, and followed by a scarcely perceptible hot fit. We have already seen that where only two fits had been allowed to occur, forty grains produced a free interval of seventeen, and the advantage therefore of immediately giving quinine, and as soon as possible arresting the course of the paroxysm, was so obvious, that on the evening of the 2nd of July I gave him five grains of quinine, and twenty grains more were given on the 3rd, 4th, and 5th. Now the good effects of at once arresting the disease in its progress were made very evident, for these 25 grains obtained a clear interval, without fever and without medicine, of fifteen days.

On the evening of the 20th he was out boating at Kingstown, and came home chilled, as he said, by the cold breeze, but as he recovered after tea, and slept very well during the night, we flattered ourselves that it was merely a chill and not the shadow of an ague fit. But on the 23rd he had a decided though not severe fit. He now recommenced quinine—five grains on the 23rd, five on the 24th, ten on the 25th, and ten on the 26th, on which day he had a well-marked fit, but not of long continuance, and its commencement was deferred until half-past seven in the evening. On the 27th he took five grains, on the 28th ten grains, and on the 29th ten grains: on that day he had no fit: so that between the 23rd and 29th, both days inclusive, he had taken fifty-five grains, which quantity produced a free interval of eleven days. This result

forms a striking contrast with the former, and proves that twenty-five grains employed immediately on the appearance of the first fit produces a longer interval than fifty-five grains employed after the second fit had been allowed to come on. I now determined to act on the experience thus gained, and give the medicine the moment the disease reappeared. This it did on the 10th of August, when he had a decided fit, which commenced at half-past five, and seemed to have gone off before nine o'clock, for he slept perfectly well, and was free from fever during the night.

In this case the first paroxysm of some of the series was of long continuance, and embraced portions of two successive days, so as to make it difficult to determine the exact date of the paroxysm. Thus in December, 1842, the ague fit commenced on the 17th, in the afternoon, and lasted for twenty-four hours, that is, until seven o'clock on the evening of the 18th. If we date it from the commencement of this paroxysm, that is the 17th, the next fit should have been on the 20th, whereas it actually occurred on the 21st of December, here then the date must be taken from the day on which the fit terminated. An example of the contrary nature occurred on the 9th of March, 1844, after a free interval of nearly five months, when a paroxysm of eighteen hours' duration partly occupied the 9th and partly the 10th of March. In this instance the two fits next in order were prevented, but as one occurred on the 18th of March it is clear that the date must be taken from the day on which the fit *began*, not on that on which it *ended*. These two facts, apparently contradictory, taken in conjunction with others of a similar nature observed in this case, prove that when ague commences or reappears after a long cessation, it is not always easy at first to determine accurately the dates of the fits.

He took five grains of quinine on the 10th of August, ten on the 11th, ten on the 12th, and five on the 13th, on which day he had no fit. It was now remembered that on the 8th and 9th of August some precursory symptoms had appeared,

denoting the approach of the fit, for on those days he complained of considerable vertigo in the morning after breakfast, particularly on going to stool. The giddiness was very bad on the morning of the 11th, but was much diminished on the 12th. Notwithstanding this giddiness he continued the quinine, and the vertigo with its accompanying paleness and slight nausea, disappeared. It was now proved that the occurrence of the morning vertigo might serve to give us one or two days' warning of the future fit, and accordingly it was determined to resume the medicine the moment he complained of this vertigo, which he did very much when at stool after breakfast on the 21st of August. He took five grains at mid-day, and five before breakfast on the 22nd. The giddiness was much less. On the 23rd he took five grains in the morning, and had no vertigo after breakfast, and on the 24th five grains more were taken, and then, as he appeared quite well, the medicine was discontinued, but was again resumed on the 31st of August, as he complained of some vertigo, and he took five grains daily until the 8th of September, when he was quite free from ague.

At this period of his treatment I was not aware of the law which governs the return of the ague fit. On looking at the table it was quite evident that the giddiness he complained of on the 21st of August was the precursor of the fit that would have occurred on the 22nd, had not the quinine been used; and again, that the giddiness which recurred on the 31st of August was the first shadow of the fit due on that day, and which, no doubt, would have made its appearance in full development on the 3rd of September, had not medicine been used. A knowledge of this law will, therefore, prove of the greatest importance in enabling us to guard against the return of the disease; for, for several weeks after the series of fits has ceased, we can point out to the patient on what days they are liable to reappear; and, consequently, he can upon those days more effectually guard against the occasionally exciting causes of the disease, such as cold, fatigue, &c., and can also more

accurately prognosticate his distance from the paroxysm by the greater or lesser degree of health which he feels on the periodic days. As long as they continue as free as the intervening days, the relapse is comparatively distant. But, to return to our history. The disease appeared now much less violent than before, for during the two preceding months the fits had been comparatively slight and of short duration, and much more under the control of medicine. On the 8th of September he went to England. By way of precaution I ordered him to continue the quinine in the following manner: He was to take five grains for four consecutive days, and then to omit it altogether for the next six days, at the expiration of which the four-day course was to be resumed. Thus twenty grains were given every ten days. This plan of treatment seemed to be attended with much success. For more than two months he had no attack. He gained flesh and improved in looks and spirits, but, just as we anticipated the realization of our best hopes, the disease reappeared on the evening of October the 15th, so that from the date of the last attack on the 10th of August, sixty-four days had elapsed without an attack, and by reference to the table it appears that the 15th of October was one of the ague days, or rather of the periodic days: so that the disease suppressed during more than nine weeks had yet, for the whole of that time, observed its latent period in the system, and reappeared with wonderful regularity on the ague day. As I before stated he had a paroxysm on the 15th of October: it was slight and occurred in the evening: and again tolerably severe ones occurred on the 18th and 21st of October at early periods of the day: but on the 24th the fit was postponed to seven in the evening, and was only a shadow. Between the 16th of October and the 28th he took fifty grains of quinine. From the benefit derived from the four-day course with the six-day interval the course of quinine was again commenced, and was persevered in for nearly five months, during which he enjoyed excellent health and was free from every symptom of disease, hav-

ing taken in this period more than 200 grains. However, on the 9th of March his old enemy once more attacked him. The fit was very severe, occupying part of the 9th and part of the 10th of March. The latter was the day on which it was due had it returned according to the usual period. This can scarcely be considered an exception to the usual rule, for when the ague returns after a long interval and the fit is severe, occupying the latter half of one day and the beginning of another, we have already seen that the sequel alone will determine from which of the days we are to date: allowing, however, this to be an exception to the general rule, our period becomes once more dislocated, and we set out anew with a periodic time dated from the 9th of March. This periodic time holds true, indicating after an absence of two fits, the fit of the 18th of March, and the next fit, which occurred on the 11th of April, the latter interval consisting of twenty-three days between the two fits, There was a fit on the 14th of April, another on the 17th, and another on the 20th; and none then occurred until the 2nd of July. According to the new periodic time it ought to have occurred on the 1st of July. In this free interval of seventy-two days the periodic time failed to indicate by one day, or rather by half a day, the reaccession of the disease. We must therefore again take a fresh day of departure, from the 2nd of July. Another fit occurred on the 5th of July. No fit came on till the 25th of August, that is, there were fifty clear days, free from the fit, between these two paroxysms; and the latent periodic time came out true. No fit occurred until the 2nd of November, so that there was now a free interval of sixty-eight days; and the latent periodic time was true to a day. Taking date from the 2nd of November, we have next an interval of forty-one clear days, bringing us to the last fit on the 14th of December, 1844, which coincides with the periodic time. The following is a table of the free intervals which occurred between successive series of fits, shewing the respective duration of the intervals which observed the period, and those which did not.

TABLE A. FREE INTERVALS BETWEEN SUCCESSIVE SERIES OF FITS.

	INTERVAL.	PERIODIC.	NOT PERIODIC.
		Days Free.	Days Free.
1842	1st	17	
	2nd		12
	3rd	41	
	4th	44	
1843	5th	17	
	6th	14	
	7th	17	
	8th	14	
	9th	65	
	10th		136
	11th	8	
	12th	23	
1844	13th		72
	14th	50	
	15th	68	
	16th	41	

It is worth remarking that all the numbers indicating the free intervals, in which the latent period was observed, consist of multiples of three *plus* two—the reason is obvious.

By this it appears that, in thirteen intervals, the latent periodic time was preserved, so as to indicate truly the day on which the disease reappeared; and that, in the remaining three the indication was inaccurate by half a day or more. It is to be noted, that two of the failures occurred where the intervals had been very great. We may, therefore, conclude that the law is true of intervals varying from ten to sixty or seventy days; in much longer intervals it is less certain. During the year 1843, twenty-seven fits occurred; in 1844, but eleven, most of which were in the months of March and April, and some of the latter were among the most violent he experienced. The disease, therefore, did not wear itself

out, but was cured. He has had no fit during the last year, and has remained free from the disease since the 14th of December, 1844, to the present date.

With respect to the manner in which quinine was used, the following observations may be made. At first I gave it in the usual manner, until the particular series of fits ceased; and then persisted in its use for ten days or a fortnight: gradually decreasing the quantity taken. This is the method generally recommended by authors, and it is founded on the notion, that it is necessary where the medicine is given in large doses, not to omit its use abruptly, lest the system should feel the loss of this powerful tonic. My experience in this and other cases, leads me to doubt the accuracy of the reasoning upon which this treatment is founded, and I am convinced, that in following this rule we defeat our own object, by accustoming the constitution to the medicinal effects of the quinine at a time when the ague fit is absent. The quinine is the proper antagonist of the fit, and while the fits require this medicine, it is borne well by the constitution. On the contrary, when the fits are absent, its curative effects appear to be diminished, and the constitution becomes so accustomed to it, that, when the disease again requires it, the medicine no longer exerts its anti-aguish influence. We have an analogous example in the case of mercury, of which moderate quantities, judiciously exhibited, are sufficient to cure the venereal disease, provided the mercury is given when venereal symptoms are present, and only in the quantity necessary to control these symptoms. If it be given by way of prevention, when these symptoms are not present, or in too great quantity when they are, the system in either case becomes saturated with the mineral, but is not protected from the further ravages of the venereal disease. The second mode of treatment which I adopted was calculated to avoid the inconvenience already pointed out. This method consisted of giving the quinine for four successive days, and

intermitting it for the six following days, thus embracing the interval comprehended in three fits. By these means it was hoped to keep the system sufficiently under the curative influence of quinine while we avoided rendering the constitution too familiar with the medicine; the six-day interval preventing it from becoming saturated by the quinine. This method of treatment seems to have been eminently successful, and under its influence the disease abated in violence, the frequency of the attacks decreased, and the long interval of 136 days was at last obtained. Finding, however, that, though it had broken the violence of the disease it had not extinguished it, I tried another on the third plan, which was to give no quinine until a well-marked fit or shadow of a fit occurred, and then at once to use the medicine in large doses, so as to stop the fits as soon as possible. The moment this object was accomplished the medicine was omitted and was not again given until the paroxysms recurred, when they were similarly treated. This on the whole appears the best method, as it stops the paroxysms speedily, and keeps the medicine in reserve until they reappear. The following table gives a general view of the quantity of quinine which this patient took. The quinine was prepared by Mr. Donovan, and was of the purest kind.

On the whole, I conceive the readiest method of giving quinine to be, to add a dose of powder to about half an ounce of water at the time it is to be taken; it can be readily mixed by stirring with a spoon; and by this means it may be swallowed without the inconvenience which attends the dose when acid is used for the solution of the quinine, the action of which might prove injurious to the teeth.

During the summer of 1843, the young gentleman whose case has been related, had a very delicate and unhealthy appearance, and while he was under the kind superintendence of Dr. Stokes at Howth, evident tumefaction of the spleen had commenced. He is now robust and strong, and has regained his original healthy complexion.

TABLE (B.)

SULPHATE OF QUININE TAKEN DURING THE YEARS
1842, 1843, AND 1844.

1842.					GRAINS.
Dec.	18,	Two draughts,	each containing	gr. v.	= x.
,,	20,	do.	do.	do.	gr. v. = x.
,,	22,	do.	do.	do.	gr. viiss. = xv.
,,	23,	do.	do.	do.	gr. viiss. = xv.
,,	26,	do.	do.	do.	gr. viiss. = xv.
1843.					
Jan.	1,	do.	do.	do.	gr. v. = x.
,,	8,	do.	do.	do.	gr. viiss. = xv.
,,	11,	do.	do.	do.	gr. viiss. = xv.
,,	21,	Four	do.	do.	gr. viiss. = xxx.
,,	26,	Two	do.	do.	gr. viiss. = xv.
,,	29,	Four	do.	do.	gr. v. = xx.
,,	31,	Six	do.	do.	gr. v. = xxx.
Feb.	5,	do.	do.	do.	gr. v. = xxx.
,,	11,	do.	do.	do.	gr. iv. = xxiv.
,,	19,	do.	do.	do.	gr. iii. = xviii.
March	13,	do.	do.	do.	gr. v. = xxx.
,,	16,	do.	do.	do.	gr. v. = xxx.
,,	18,	Four	do.	do.	gr. v. = xx.
,,	22,	Six	do.	do.	gr. v. = xxx.
,,	28,	do.	do.	do.	gr. v. = xxx.
April	3,	do.	do.	do.	gr. iv. = xxiv.
,,	8,	do.	do.	do.	gr. iv. = xxiv.
,,	15,	do.	do.	do.	gr. iii. = xviii.
,,	21,	do.	do.	do.	gr. iii. = xviii.
May	4,	do.	do.	do.	gr. v. = xxx.
,,	6,	do.	do.	do.	gr. v. = xxx.
June	15,	Fifteen	do.	do.	gr. v. = lxxv.
July	2,	Two	do.	do.	gr. v. = x.
,,	3,	Ten	do.	do.	gr. v. = l.

1843.					GRAINS.
July	23,	Six draughts,	each containing	gr. x.	= lx.
Aug.	10,	Seven	do. do.	gr. v.	= xxxv.
„	21,	Four	do. do.	gr. v.	= xx.
„	31,	Three	do. do.	gr. v.	= xv.
Sept.	5,	Four	do. do.	gr. v.	= xx.
„	8,	Eleven	do. do.	gr. v.	= lv.
Oct.	5,	Four papers of quinine,	in each	gr. v.	= xx.
„	17,	do.	do. do.	gr. v.	= xx.
„	18,	Twelve	do. do.	gr. v.	= lx.
„	25,	Six	do. do.	gr. vi.	= xxxvi.
Nov.	2,	do.	do. do.	gr. v.	= xxx.
Dec.	1,	Twelve	do. do.	gr. v.	= lx.
„	26,	do.	do. do.	gr. v.	= lx.
1844,					
Feb.	5,	do.	do. do.	gr. v.	= lx.
„	28,	do.	do. do.	gr. v.	= lx.
March	13,	do.	do. do.	gr. v.	= lx.
April	7,	do.	do. do.	gr. v.	= lx.
„	15,	Six	do. do.	gr. v.	= xxx.
„	25,	Twelve	do. do.	gr. v.	= lx.
Aug.	18,	do.	do. do.	gr. v.	= lx.
Sep.	4,	do.	do. do.	gr. v.	= lx.
Nov.	7,	do.	do. do.	gr. v.	= lx.

Amounting in the whole to grs. 1680, equivalent to *three troy ounces and a half*, of which he took, in the year 1842, grs. 65; in the year 1843, grs. 1105; in the year 1844, grs. 510.

The two Tables marked C represent the fits and intervals during the years 1843 and 1844. D. F. day on which fit occurred. P. T. the periodic time carried on through the free intervals. W. D. marks where the latter falls on the wrong day, i. e. a day on which no fit occurred; a new series here commences in each of the three failures, as explained in the text.

TABLE (C).—1843.

	January.	February.	March.	April.	May.	June.	July.	August.	Septem- ber.	October.	Novem- ber.	Decem- ber.
1			P. T.					P. T.				
2	P. T.	P. T.				D. F.	D. F.				P. T.	P. T.
3				P. T.	D. F.				P. T.	P. T.		
4			P. T.					P. T.				
5	P. T.	P. T.				D. F.	P. T.				P. T.	P. T.
6				P. T.	D. F.				P. T.	P. T.		
7			P. T.					P. T.				
8	D. F.	P. T.				D. F.	P. T.				P. T.	P. T.
9				P. T.	P. T.				P. T.	P. T.		
10			D. F.					D. F.				
11	P. T.	P. T.				D. F.	P. T.				P. T.	P. T.
12				P. T.	P. T.				P. T.	P. T.		
13			D. F.					P. T.				
14	P. T.	P. T.				D. F.	P. T.				P. T.	P. T.
15				P. T.	P. T.				P. T.	D. F.		
16			D. F.					P. T.				
17	P. T.	P. T.				D. F.	P. T.				P. T.	P. T.
18				P. T.	P. T.				P. T.	D. F.		
19			P. T.					P. T.				
20	W. D.	P. T.				P. T.	D. F.				P. T.	P. T.
21	D. F.			P. T.	P. T.				P. T.	D. F.		
22			P. T.					P. T.				
23		P. T.				P. T.	D. F.				P. T.	P. T.
24	D. F.			P. T.	D. F.				P. T.	D. F.		
25			P. T.					P. T.				
26		P. T.				P. T.	D. F.				P. T.	P. T.
27	D. F.			P. T.	D. F.				P. T.	P. T.		
28			P. T.					P. T.				
29						P. T.	P. T.				P. T.	P. T.
30	P. T.			D. F.	D. F.				P. T.	P. T.		
31			P. T.					P. T.				

TABLE (C.)—1844.

	January.	February.	March.	April.	May.	June.	July.	August.	Septem-ber.	October.	Novem-ber.	Decem-ber.
1	P. T.		P. T.			P. T.	W. D.	P. T.				
2				P. T.	P. T.		D. F.				D. F.	P. T.
3		P. T.							P. T.	P. T.		
4	P. T.		P. T.			P. T.		P. T.				
5				P. T.	P. T.		D. F.				P. T.	P. T.
6		P. T.							P. T.	P. T.		
7	P. T.		P. T.			P. T.		P. T.				
8				P. T.	P. T.		P. T.				P. T.	P. T.
9		P. T.	D. F.						P. T.	P. T.		
10	P. T.		W. D.			P. T.		P. T.				
11				D. F.	P. T.		P. T.				P. T.	P. T.
12		P. T.	P. T.						P. T.	P. T.		
13	P. T.					P. T.		P. T.				
14				D. F.	P. T.		P. T.				P. T.	D. F.
15		P. T.	P. T.						P. T.	P. T.		
16	P. T.					P. T.		P. T.				
17				D. F.	P. T.		P. T.				P. T.	
18		P. T.	D. F.						P. T.	P. T.		
19	P. T.					P. T.		P. T.				
20				D. F.	P. T.		P. T.				P. T.	
21		P. T.	P. T.						P. T.	P. T.		
22	P. T.					P. T.		P. T.				
23				P. T.	P. T.		P. T.				P. T.	
24		P. T.	P. T.						P. T.	P. T.		
25	P. T.					P. T.		D. F.				
26				P. T.	P. T.		P. T.				P. T.	
27		P. T.	P. T.						P. T.	P. T.		
28	P. T.					P. T.		P. T.				
29				P. T.	P. T.		P. T.				P. T.	
30			P. T.						P. T.	P. T.		
31	P. T.							P. T.				

ART. III.—*A new Method for detecting spurious Musk-Pods.*

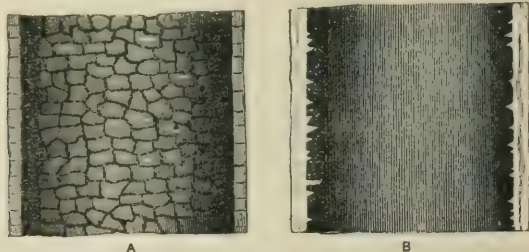
By J. MOORE NELIGAN; M. D., M. R. I. A. Physician to Jervis-street Hospital, Lecturer on Materia Medica and Therapeutics in the Dublin School of Medicine, &c.

OWING to the high price and great demand for musk, both as a medicine and a perfume, it is very generally much adulterated. This fact is so well known to apothecaries and to druggists, that those who have even a moderate consumption of the drug, prefer purchasing it in the unopened musk-bag, or, as it is technically called, *musk-pod*. This precaution, however, is often found not to be a sufficient protection against fraud, as spurious musk-pods are not uncommon in commerce, so well prepared that even the most experienced eye is often unable to distinguish the true from the false.

It is now very generally known, that musk is the peculiar secretion of a small sac situated immediately in front of the preputial orifice of the male musk animal the *Moschus moschiferus*, and that it is principally imported into the British market from China. The Chinese, finding a greater demand for musk than they are able to supply with the genuine article, squeeze out some of the secretion, which is fluid in the recent state, and mix it with, it is believed, the dried blood of the animal; this compound, which presents the same physical characters as true musk, they put into small sacs made of pieces of the skin cut off from other parts of the animal's body and prepared with the usual ingenuity of this people, so much so, indeed, as almost to defy detection with the naked eye.

The method hitherto adopted for detecting this sophistication, has been the peculiar position of the hairs, which are arranged in a circular manner around the orifice in the genuine musk-pod, and also the absence of any remains of the penis in the artificial pods. But those characters are not invariable, and I have seen some spurious musk-pods which were so skilfully prepared as to be undistinguishable from the genuine article when compared with them.

The plan which I propose, depends on the microscopic characters of the hairs which grow on the preputial sac of the musk animal, and which, as far as I have been able to detect by direct experiment, differ very remarkably from those of the false sacs which are met with in commerce. This test I have recently had an opportunity of pointing out to my friend Professor Christison, of Edinburgh, and of illustrating it to him from specimens in his own museum. The character of the hairs may be readily understood by a reference to the accompanying wood cut, of which the one marked A represents a hair from a genuine, and that marked B one from a false musk-pod. Hairs of the same size have been selected, and they are drawn as seen through a microscope of three hundred diameters.



The difference appears to depend on the fact, that the hairs of this part of the animal are furnished in the interior with distinct, regular, colour cells, while in hairs taken from other parts of the animal's body those cells appear to be obliterated, as is generally the case in this and the allied tribes of animals.

The method I have now proposed is a very simple one, and of easy application, and cannot be considered too scientific in the present day, when every pharmacist must be supposed to be provided with a microscope at the least of the power above spoken of, without which he could not possibly detect the adulteration of arrow-root and of the other feculas of commerce.

ART. IV.—*On Extirpation of the Lachrymal Gland*.—By
CHARLES HALPIN, M. D., F. R. C. S.

[Read at the Surgical Society.]

JUDGING from the record of cases in which extirpation of the lachrymal gland has been deemed requisite and has been resorted to, we are brought to the conclusion that this organ enjoys an almost entire immunity from disease. Instances, indeed, of its removal, are to be found in the works of writers on surgery, but the number is so small that they may be looked upon as merely forming the exception to this general rule. By its position within the orbit, lodged in a deep sulcus of the horizontal plate of the frontal bone, and behind its external angular process, it is completely protected from external violence, and the diseases by which it is primarily affected are few indeed. Mr. Lawrence, in his *Treatise on Diseases of the Eye*, to which I shall have occasion to refer frequently in the course of this paper, thus speaks on this subject. “The lachrymal gland, like other conglomerate glands, is rarely diseased. According to the representation of Mr. Todd, acute and chronic inflammation and suppuration of this gland are common occurrences. I do not remember to have seen either of these affections; if, therefore, the preceding representations are correct, I must either have overlooked diseases of this organ, which have been noticed by others, or have mistaken them for other affections. In twelve of the annual reports of diseases treated at the London Ophthalmic Infirmary, which I am able to refer to as I am writing, embracing an amount of 40,000 cases, the lachrymal gland is not even mentioned in the diseases.”—Second Edition, pp. 797-8.

It is beside my present purpose to enter into the question of inflammation of this gland, either acute or chronic, and I shall confine myself to those cases in which enlargement of it has taken place to such an extent as to impair, or even destroy vision altogether. This enlargement may proceed without

exhibiting any of the characters of malignant disease ; or it may put on all the features of true scirrhus degeneration. In either cases, its removal becomes necessary, but in the latter state it is peremptorily called for, at the earliest possible stage, as the only means of preventing contamination of the contiguous structures, in which the destruction of the eye is likely to be involved.

I believe I am correct in stating that there are but six cases on record in which extirpation of the lachrymal gland has been performed, and five of these are given by British surgeons. In making this statement, however, I do not rely on my own limited means of research(*a*).

Dr. O'Beirne, an excellent authority on this subject, in answer to some queries of mine, gives the following summary. "The case you allude to" (one in which he operated) "will be found in the third volume of the Dublin Hospital Reports, and in the late Mr. Todd's paper on diseases of the lachrymal organs.

"Richerand says that Guerin performed the operation, but there is no mention of the fact in Guerin's work '*sur les Maladies des Yeux*,' nor can my research discover it elsewhere. The first who performed it certainly was Mr. Travers ; mine was the next, and then follow those of Mr. Todd and Mr. Lawrence. Mine, however, is the only one in which vision was completely restored."

Mr. Travers "removed the lachrymal gland greatly enlarged and in a state of true scirrhus." His Synopsis of Diseases of the Eye was published in 1820. "The vision of that eye had

(*a*) Sir Philip Crampton informs us that he removed the lachrymal gland from an elderly female, several years ago. It had formed an enormous fungous mass, projecting through the palpebral aperture, and consequently elevating the upper lid. On removing the tumour, which was at first supposed to be an ocular fungus, the collapsed globe was found beneath and behind it. The patient lived many years after. Mr. O'Ferrall lately removed a small, hard tumour from the upper edge of the orbit, in a patient at St. Vincent's Hospital ; but there is some doubt whether this body was the lachrymal gland.—[ED.]

suffered considerably during the growth of the tumour; in other respects," he says "the patient continued well when I last saw him, after an interval of several years."

Doctor O'Beirne's case was the next in which the operation was performed. It was perfectly successful, and complete restoration of vision followed. This operation was performed on December 23rd, 1820.

On the 30th of August, 1821, the late Mr. Todd "removed a scirrhus lachrymal gland from a woman aged seventy years, in whom vision had been destroyed by the pressure of the tumour and the extension of the optic nerve." The preparation is in the Museum of the College of Surgeons. The fourth and fifth cases are recorded by Mr. Lawrence. He removed an enlarged and indurated lachrymal gland successfully, from a young man, on the 25th of March, 1826; the globe had been gradually protruded from the orbit, with the loss of all useful vision; vision was much improved by the operation. In June, 1828, he extirpated successfully an enlarged and hardened lachrymal gland from a patient twenty-seven years of age, which had caused displacement of the eye with loss of vision; at the end of November vision was so far improved, that the patient could read, with the affected eye, the leading article of a newspaper.

Richerand says that Guerin performed this operation, as already stated on the authority of Dr. O'Beirne, but there is no mention made of it by Guerin in his work *Sur les Maladies des Yeux*, and as Richerand speaks of it as "*Operation peut etre unique dans son genre*" (*Nosographie Chirurgicale*, T. ii. p. 31), it is difficult to account for the omission.

In the *London Medical Gazette* (a) we find an extract from a Bordeaux journal, recording some cases of extirpation of the lachrymal gland by Daviel. In one of these a man aged sixty-three years received a blow on the upper part of the

(a) Vol. iii. p. 529, London, 1829.

orbit several years before, by which it appears that the bone was injured, and a sinus communicated externally with the carious orbit. A portion of the orbital plate of the frontal bone, and the entire of the lachrymal gland, were removed, the latter was about the size of a pigeon's egg. In this case vision was perfectly restored, and it is stated that the eye was as capable of weeping as if the gland had not been removed. This case, however, is not well recorded, and it is possible the gland may not have been entirely removed.

Dr. Mackenzie relates two cases of enlarged lachrymal gland, the one in an elderly female, the other in a girl eight years of age. In the first of these, which is interesting from the disease having been permitted to run its course, and from there being a post mortem examination of the parts, the globe was greatly protruded downwards, inwards, and forwards; but some time before death the eye had burst, and the empty sclerotic was found in front of a large white granular tumour "evidently the enlarged acini of the lachrymal gland." It was as large as a man's fist, pressed into the spheno-maxillary fissure, destroyed by absorption, the roof of the orbit, and pressed the anterior and middle lobes of the brain upwards and backwards. The right motor oculi was absorbed within the cranium, the optic nerve was smaller than its fellow; and within the orbit merely its neurilema remained. In the case of the child the gland was affected on both sides, almost simultaneously. The eyes were protruded from the sockets, and when it applied at the Glasgow Infirmary the cornea of the left eye was beginning to slough. A few days subsequently the eyes protruded enormously, but, the friends removing it from the hospital, it died a few weeks after. A post mortem examination was, however obtained; the glands, which exactly resembled each other, both in size, texture, and appearance, were of a greenish whey colour, and not only filled the orbits completely, but projected three quarters of an inch beyond the frontal bone. The coats of the eye were reduced to mere

shrivelled sacs. Several small tumours, precisely similar in character and appearance, were found growing from the dura mater over the ethmoid and temporal bones, which were carious at these spots.

A somewhat similar case of double enlargement and disease within the cranium is recorded by Allan Burns. Dr. Balfour, in the Edinburgh Medical and Surgical Journal, has a like instance of what Dr. Mackenzie denominated "*Chloroma, or green tumour.*"

This latter authority says: "It is extremely probable that different kinds of chronic enlargement of the lachrymal gland have been confounded with each other; such as the true scirrhous of old people, with the scrophulous enlargement of the young; that the disease which produces the symptoms already described is in all cases scirrhus, may fairly be doubted on the following grounds: 1st, its attacking children as well as adults; 2nd, its seldom, if ever, affecting the lymphatic system; 3rd, its seldom, if ever, undergoing any thing like cancerous ulceration; and 4th, its not returning in the neighbouring parts after the extirpation of the gland"(b).

Having within a short period met with two cases in which the lachrymal gland was diseased and enlarged, one a patient in the county of Cavan Infirmary, the other a patient of my own: and as I think they present some interesting particulars in connexion with views advanced by Dr. O'Beirne(c) in a paper lately published by him on the diagnostic marks of Hydrophthalmia and Exophthalmia, I am induced to bring them before the Surgical Society.

In order to be able to appreciate truly the value of Dr. O'Beirne's views on the diagnostics of those diseases, it will be necessary to make a short summary of the amount of our information on the subject previous to the appearance of his paper.

(b) Mackenzie on Diseases of the Eye. 3rd Edit. p. 20.

(c) Dublin Medical Press, vol. iv. p. 136.

I shall commence with hydrophthalia. Vogel (*Definitiones Generum Morborum*) defines it “*totius oculi tumor cumaliquo dolore, adeo ut is palpebris operiri non possit.*”

Scarpa(*d*), in his chapter on dropsy of the eye, states, “the eye becomes of a size greater than natural, and sometimes so extraordinary in its bulk as to protrude out of the eye-lids.” p. 54. “From the stagnation and gradual increase of the vitreous and aqueous humours, it necessarily follows, that the eye-ball assumes at first an oval figure, terminating in a point at the cornea: then, by enlarging in all its dimensions, it arrives at a size greater than the other, and ultimately protrudes out of the orbit; so as no longer to admit of its being covered by the eye-lid, disfiguring the patient’s countenance, as if an ox’s eye had been inserted in the place of the natural one.”—p. 458.

Mr. Travers(*e*) makes no mention of the state of the eye-lids in this disease.

Mr. Lawrence(*f*) says, “In general hydrophthalia, the front of the enlarged globe, which sometimes protrudes between the eye-lids, is often irregularly protuberant.” Dr. Mackenzie makes no allusion to it.

The writer of the *Surgical Dictionary*, (Mr. S. Cooper), copies Scarpa’s description of the state of the eye-lids and eye-ball.

Thus it is seen that in hydrophthalia the state of the eye-lids has been observed and described—not so with respect to exophthalia.

Sauvages(*g*) thus defines exophthalia. ‘*Bulbi oculi pro-cidentia aucta vel non mutata sensibiliter ipsius magnitudine.*’ Amongst the synonyms of various authors, he gives the discordant collection of “*Hygrophthalia*,” “*Prolapsus*,” *Expressio oculi*,” “*Elephantiasis oculi*,” “*Exophthalia*,” “*Buphthal-*

(*d*) Scarpa, Translation by Briggs. London, 1806.

(*e*) Travers, Synopsis of Diseases of the Eye.

(*f*) Lawrence on Diseases of the Eye, 2nd edition.

(*g*) Sauvages, *Genera Morborum*, class i. ord. vi.

mos," " *Ophthalmoptosis*," " *Cancer*, &c." This genus contains eleven species. In the fifth species, *Exophthalmia a Pro-tuberantia*, he enumerates eight varieties.

Mr. Lawrence's description of exophthalmia is worthy of our particular notice in this inquiry. "When the eye is pushed out of the socket, and more particularly when it has been thrust between the lids, so as no longer to be covered by them, the disease is called exophthalmia," p. 673. "Protrusion," he remarks, "may result from penetrating wounds, and introduction of foreign bodies into the orbit; from suppuration in the orbit; from changes of an obscure nature in the parts behind it; from enlargement of the lachrymal gland; or the eye may be so enlarged by various malignant diseases, or dropsical distension, as to protrude between the lids. Thus it appears, that exophthalmia is not a particular disease, but merely a change of position, which may be produced by various dissimilar causes."

Beer proposes to call the affection exophthalmus when the protruded eye is in its natural state; exophthalmia when inflamed; and ophthalmoptosis when the displacement is caused by the division of the nerves and muscles of the orbit, or by paralysis of the latter.

Mr. S. Cooper says: "In exophthalmia, ophthalmoptosis, ptosis bulbi oculi, the eye-ball is of the natural size, and free from disease; it merely changes its situation, and partly or completely protrudes from the orbit. It is only confusing the subject to consider as specimens of this disease (exophthalmia) the cases in which the globe of the eye is enlarged, and on that account projects out of the orbit in a preternatural degree, as happens in hydrophthalmia, staphyloma, and cancerous disease." His division of the diseases is very clear, but he makes no mention of the state of the eyelids in exophthalmia.

From the foregoing extracts it is evident that the protrusion of the distended eye-ball between the eye-lids has long

been acknowledged as characteristic of hydrophthalmia, and that, under the term exophthalmia, authors have arranged diseases the most dissimilar in their causes, nature, and termination.

In this state of confusion of the subject, Dr. O'Beirne, in the paper I alluded to, announced the discovery of one obvious diagnostic mark by which exophthalmia may, he says, be distinguished at a glance from hydrophthalmia, namely, the peculiar condition of the upper eye-lid.

"I have seen," says this gentleman, "a great number of cases of exophthalmia, and in all of them, without distinction of causes, the upper eyelid covered the eye and hung down lower than usual, was more or less paralytic, and puffed, and its surface was generally of a dusky red colour, and traversed by several enlarged veins"(*h*).

My first impression on reading Dr. O'Beirne's paper was, that he had asserted the principle too broadly; nor am I yet prepared to admit that "in exophthalmia, without distinction of causes," the eyelid puts on the characters ascribed to it by him. It is opposed to what we are, *a priori*, led to conclude, would result from the formation of tumours *behind* the eyeball; so that I think further observation is required as respects it. Still, although I hesitate to yield my entire assent to his views, whose great value lie in the universality of application which he asserts for them, I am free to confess that I am not in possession of a single fact which I could adduce against them, and that, on the contrary, the observations I have been enabled to make are strongly confirmatory of their correctness.

In exophthalmia caused by the growth of tumours situated above the levator palpebræ superioris, i. e., between this muscle and the roof of the orbit, by enlargement of the lachrymal gland, or exostosis of the frontal bone, it must follow, as

(*h*) The Dublin Medical Press, vol. iv. p. 137.

a necessary consequence, that the upper eye-lid will be forced forwards and downwards by the increasing bulk of the tumour, until at length it covers the eye-ball partially or entirely.

When this morbid growth emerges from under the superciliary ridge of the frontal bone, it meets with no resistance in the structures that compose the eyelid; it expands itself freely in the fine cellular tissue that cements its muscles with its loose, and, as it were, redundant integument, which, yielding before pressure, descends in front of the globe, until at length the patient is unable to raise the lid by any effort of the levator muscle. This state of the eye-lid was observable in Mr. Travers's case.

In this instance, the tumour not having attained a great size, presses only on the external fibres of the muscle: the lid droops at the external canthus, whilst slight power of elevation still exists in its internal fibres. But this state could scarcely obtain if the morbid growth lay *beneath* the levator. Its increasing bulk, I am led to think, would gradually raise the lid, and retain it permanently in this malposition. I only state this as what I would expect to take place; and I advance this opinion with considerable hesitation, as being opposed to the observation of Dr. O'Beirne, who states that he met with "a case of fungoid disease of the brain, extending into the orbit, and protruding the eye; and the eye-ball was covered by the lid hanging down lower than usual." This condition of the lid is very remarkable in three cases that I have had drawings made from; not being the work of an artist acquainted with morbid anatomy, they are not as well portrayed as I could wish; however, they are sufficiently correct to answer the purposes of illustration.

One of these, a case of exostosis, commenced about four years ago, in M. K., aged twenty years, a small pimple-like swelling was observed under the eye-brow at its inner part; it increased to its present size in about six months; since that

time it has remained stationary. Vision was perfect until about two years ago, "'tis now a little dim;" the centre of the cornea is two and a-half inches from the centre of the nose. The upper eye-lid descends freely in front of the globe—cannot rotate the eye inwards, and but very slightly upwards. This case was in the Richmond Hospital for a short time, and has been seen by most of the medical men in Dublin. M. K. lives within two miles of Cavan.

This drawing exhibits the state of the eye in Andrew Smith(*i*). He resides about five miles from Cavan. He is a field labourer, about forty years of age, and he first applied to me for advice in November, 1844. He then stated that about eighteen months before, his attention was first attracted to the state of his eye, by what he calls "a wonderful flow of water to it," especially when the eye was irritated, or when walking against the wind: there was then no swelling in the parts, at least none sufficient to inconvenience him, nor did it appear until about twelve months ago. The "flow of water" continued as before. The upper eye-lid then became stiff and swelled, so much so that it required exertion on his part to raise it and keep it open; about six months before he applied to me he had lost the power of raising it, save with his fingers; the swelling gradually increased; the eye was at length protruded from the orbit, still covered permanently by the distending lid, producing great deformity. He did not suffer much pain in the parts at any stage of its progress.

As the case was clearly that of an enlarged lachrymal gland, I advised its immediate removal by operation; however, he would not consent. I then lost sight of him until the 2nd of April last, when, having made up his mind to submit to operation, he again applied to me. The deformity had greatly increased since I had previously seen him. The eye-ball was

(*i*) The drawings exhibited at the Surgical Society, not being the work of an artist, are not sufficiently characteristic of the affection to be reduced to wood cuts.

protruded completely from the orbit, lying outside the orbital ridge of the malar bone; the cornea, which presented a healthy appearance, was turned upwards and outwards; the iris contracted moderately on the admission of light to, but vision was very much impaired by the straining of the optic nerve, and the pressure of the entire globe by the tumour: the eye-lid was of a dusky, almost purple colour, irregular on its surface, and traversed in various directions by enlarged veins. On the 4th of April I removed the gland, assisted by Mr. Brice, of Cavan. As in this operation I made what I conceive to be important deviations from the modes hitherto practised, I think it will be useful to take a short review of each before I proceed to detail the course I pursued.

To commence with Mr. Travers.—He says, “all these operations should be performed beneath the eye-lid, when the circumstances of the case admit of it.” Now when we consider the nature of the tumours to be removed, the bulk they attain, the strong necessity there exists that they should be removed entire: how deeply seated they lie within the orbit, the importance of the organ with which they are so intimately connected, and the narrowness of the commissure between the lids, it will be obvious that this is not the best situation for the incision; and again, should hæmorrhage occur, which is sometimes profuse in operations in the orbit, as it is not possible to tie the bleeding vessel, it may be requisite to plug the site of the tumour with lint, and this cannot be best accomplished underneath the eye-lid. Should any portion of this plugging remain in contact with the globe of the eye, inflammation, probably terminating in its destruction, will most probably be the consequence: but, supposing this situation for the incision were not open to those objections, or to any of them, still I hold that it will be found to be the very worst possible place one could select for operating, for as the tumour lies above the levator palpebræ muscle, it is obvious that to get at it from beneath, this muscle must be divided transversely,

and in all probability, the patient will labour under ptosis more or less complete of that eye-lid, during the remainder of his life; and it does appear strange that Mr. Travers, having witnessed this result in the case he has published, "slight drooping of the lid at the outer angle," should recommend an operation which must, *ex necessitate*, be followed by this deformed condition of the lid.

Dr. O'Beirne says, that in his case "the operation was begun by an incision being made through the integuments of the upper eye-lid, which extended from the inner to the outer angle."

Mr. Todd says: "A transverse incision was made through the integuments, nearly parallel to the superior margin of the orbit, from one extremity of the tumour to the other; and having cut through the orbicularis palpebrarum and the ligamentum tarsi, I exposed, by a careful dissection, the entire of the anterior surface of the tumour."

Mr. Lawrence thus describes the operation performed by him, on John Clifton. "The tumour was removed on the 25th March, 1826; the external incisions being ample, as it obviously filled a large portion of the cavity. The longest, of about three inches, extended from the root of the nose along the fold of the upper lid to the temple; a second, of about two inches, passed perpendicularly over the forehead, and upper and outer part of the orbit, to meet the other at right angles: it was necessary to make a third cut from the first incision towards the anterior part of the zygoma. When the flaps from this crucial incision were turned aside, the seat of the tumour was completely exposed." In a second case, in 1828, he made nearly the same amount of incision.

These extensive incisions are by no means necessary to the performance of this not difficult operation. No additional room is obtained for the subsequent steps, by cutting two inches of integument upon the forehead, at right angles with the transverse incision, nor again by that in the direc-

tion of the zygoma. Incisions extending beyond the osseous boundary of the orbit are not only unnecessary but injurious : unnecessary, as they cannot facilitate the extirpation of the tumour ; and injurious by the amount of additional pain inflicted on the patient, and the disfigurement of the face and forehead by cicatrices. The immediate consequence Mr. L. describes to be “ the loss of a large quantity of blood.” The remote “ in 1839, when the patient was last seen, a hard swelling had formed about the middle of the cicatrix, under the superciliary ridge.”

In operating in this case I determined to avoid wounding the eye-lid, thinned, discoloured, and traversed by large veins. I drew down the tumour with the fingers of my left hand until I had about one-half of the eye-brow below the edge of the superciliary ridge : Mr. Brice then fixed the integuments against the forehead. In order to insure the largest possible space for the dissection of the gland from its deep attachments, I swept round nearly two-thirds of the orbit with my first incision, which commenced immediately above the tendon of the orbicular muscle, and terminated half an inch below the external commissure. In this course I divided the eye-brow through its entire length, leaving about two-thirds of its breadth on the forehead ; the ligamentum palpebrarum was then divided. The flap was next dissected down ; and ample room was obtained ; a ligature was passed through the gland, and it was dissected, entire, partly with the index finger of the right hand, and partly with the scalpel, from its deep connexions. There was no hæmorrhage. The edges of the divided eye-brow were now brought together by four points of interrupted suture ; the patient was put to bed, and the cold water dressing applied. Union by the first intention took place along the entire line of incision. Seven days after the operation he was able to return home ; the eye-ball gradually regained its normal position ; at the termination of four weeks there was no deformity whatever to be observed, and it would

require the closest examination to discover the line of incision amongst the hairs of the eye-brow. On the 4th of May last, a month after the operation, he declared that his sight in that eye was quite as good as it had been. In order to ascertain whether tears would flow from an eye deprived of its lachrymal gland I dipped the blunt end of a probe in Tr. Opii, and touched the conjunctiva with it—immediately the *right* eye became suffused with tears, which flowed over the cheek. At the end of thirty seconds I applied the probe a second time; in sixty seconds after this second application a drop of fluid fell from the left eye, and in thirty seconds more another; this fluid was opaque and whitish; doubtless this appearance was caused by the tincture: the conjunctiva remained red for a considerable time after the application of the tincture. He did not experience any feeling of unusual dryness of the eye-ball since the operation. The disease in this gland, which had become enlarged to the size of a hen's egg, does not appear to me to be malignant; I think it presents a good specimen of simple interstitial enlargement of the gland; it is smooth on its surface; and the section presents a regular homogeneous mass of a yellow colour.

The third case, that of Bridget Judge, kindly sent to me by Dr. Roe, was admitted into the Cavan Infirmary, 19th of November, 1844, for diseased lachrymal gland, presents the same condition of the upper eye-lid, although the tumour attained the size of a small orange. The gland was removed by Dr. Roe, who says, "it presented a very malignant as well as disfiguring appearance, the tumour occupying the place of the right eye, distending and elongating the upper eye-lid, and partly everting the lower, and compressing out of sight the globe, except at the inner or nasal angle. The integuments of the upper eye-lid were red and inflamed, and highly vascular, giving it a very suspicious and malignant look. The tumour was about the size of a small orange, and had not been

attended with much pain until lately, although she had observed it for very many years. From its inflamed look and the dread of its being fungus hæmatodes, I was unwilling to touch it, and for some days I gave her nothing but some simple cold lead lotion, and mild purgatives, however, after eight or ten days, at her earnest solicitation, I removed the tumour, by dividing the upper eye-lid, nearly in its centre and at the soundest part, as far up as the eye-brow, by introducing a sharp-pointed bistoury between the eye-lid and the tumour, and slitting it up.

“The flaps on each side were freed from the tumour, and reflected as high as the arch of the orbit, from which the tumour was detached, and then being drawn down gently by a double hook, it was separated without much difficulty from the roof of the orbit, and gradually turned out and also detached from the eye. Finding, however, I had left a portion of it attached to the sclerotic coat—fearing its malignant nature—and knowing that the vision must be lost, it was thought better and more prudent to remove the whole globe, and any hardened cellular substance in the orbit. The divided lid was united by two stitches of interrupted suture, and the cavity filled up by thin dossils of lint, and a small piece of dry sponge of a conical shape, with a light compress over all. Nothing particular occurred in the future treatment, except that I found the outer flap of the eye-lid, which did not unite well to the other portion, had remained so long, having lost its contractibility, that after ten days I removed a portion of it with the scissors: the edge of it partly united to the inflamed conjunctiva of the lower lid, and covered the orbit so as to leave very little deformity, except the sunken state of the eye-lids.

“Twelve months having now elapsed, and the patient not having returned to me, as she promised to do, in case of any unpleasant symptoms occurring, I presume and hope the disease has been entirely removed, and that it did not possess the malignancy of fungus, which I dreaded.

“This affection of the lachrymal gland is, I have reason to think, a rare disease, as I have only met with two well-marked cases of it.”

You must have observed in the quotations made from writers on diseases of the eye, the confusion that exists respecting the diseases that properly come under the term Exophthalmia. In order to avoid this confusion (inevitable from the want of a proper arrangement of diseases of that organ), and to attach something of precision to the term Exophthalmia, I would propose to limit its applicability to those diseases which originate external to the cavity of the eye-ball, as enlarged lachrymal gland, tumours of the orbit, diseases of the lids, &c., &c.; whilst diseases of the interior of that cavity, as hydrops oculi, opacity of the lens, iritis, &c. &c., I would class under the general head or division of Endophthalmia. I am aware that considerable difficulties lie in the way of perfecting such an arrangement; a similar one is, however, made available in classifying diseases of the heart and its surrounding structures; and I am not without hope but that such a division may facilitate our study of the diseases now under consideration.

I have now presented a few facts bearing strongly upon the position taken up by Dr. O’Beirne. In a practical point of view, it is of high importance to ascertain whether the condition of the eye-lid, described by him as characteristic of exophthalmia, is of constant occurrence; much doubt, much difficulty in diagnosis and practice, will be thereby removed. I have long wished for more information on this point, but not finding the inquiry followed up as I think its importance deserves, I determined to arouse the attention of the Profession to the paper I have alluded to, by bringing those cases before the Surgical Society, in the hope that it may induce inquiry and elicit truth.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

On Diseases of the Liver. By GEORGE BUDD, M. D., F. R. S.,
Professor of Medicine in King's College, London. 8vo.,
pp. 401.

DR. BUDD commences his work by stating the reasons for its publication, which are, the great frequency of diseases of the liver, the difficulty of their discrimination, and the few trustworthy guides for treatment; "notwithstanding this, while the Press has been teeming with works on the diseases of the nervous system, of the chest, of the kidneys, of the skin, comparatively few have appeared of late years, on diseases of the liver."

He enumerates the causes which rendered the study of these diseases difficult, and concludes, "thus, to detect and distinguish the diseases of the liver, practitioners had little more than the signs of functional disturbance—signs, in all cases, of doubtful import."

He next gives an introductory exposition of the minute anatomy of the liver, with some excellent diagrams, but to the work itself we must refer any person desirous of further information on this subject, as well as on the composition and use of the bile. The chief business of our review must be with the practical part of the work, which he has divided into five chapters, besides an appendix, containing a good account of the "liver-fluke" in man, as well as in the sheep and other graminivorous animals. We will examine in detail the most important divisions of Dr. Budd's work, and shall commence with that on congestion of the liver, which, though it contains nothing new, yet explains with clearness, and satisfactorily, the rationale of the stasis of the blood, in the different forms of congestion, illustrated by diagrams copied from those of Kiernan, exhibiting the condition of the lobules, in the first and second stage of what he (Kiernan) terms hepatic venous con-

gestion, in which the branches of the hepatic veins and their capillaries are tinged with blood, depends on a mechanical obstacle in either the heart or liver—and is the true passive congestion. He also alludes to the congestion caused by a faulty state of the blood, as in purpura; but we are surprised that he does not allude to that state of the liver which is often met with in pernicious, remittent, and intermittent fever; in which it seems to be composed of black blood, slightly coagulated, contained in cellular meshes.

There is a good diagram of that rare form of partial congestion (termed by Kiernan, portal venous congestion), in which the portal veins, and the capillaries immediately springing from them, are found *alone congested*, but which he has only found in children, and a beautiful specimen of which we lately saw in a child of ten years old, who died with general anasarca, and great congestion of the liver, depending on a neglected attack of pericarditis. We wonder that he has not alluded to the condition of the liver, which is so often found in empyema, and which has been dwelt on by Dr. Stokes, in his valuable work on diseases of the chest; and more recently particularly noticed by Mr. Mac Donnell, in the *Dublin Journal* for March, 1844, who mentions the liability of its being mistaken for hepatitis, and states:

“Many examples of empyema of the left side, in which tumours of the epigastrium, and toward the umbilicus, were noticed, and which were considered as depression and displacement of the spleen, were in all probability examples of the enlargement of the liver.”

In his general remarks on the classification of inflammatory diseases of the liver, Dr. Budd objects to the usual division into acute and chronic. This division, he says,

“Is essentially faulty in practice, because the terms are applied, not with reference to the kind of inflammation, or the rapidity with which it works its effects, but to the severity, merely, of the local symptoms. Now inflammation of the liver running rapidly into abscess, if deep-seated and of small extent, may give rise to but few and obscure local symptoms, and would, consequently, be styled chronic during the life of the patient; while inflammation, involving the surface of the liver, even of such kind as causes the slow effusion of coagulable lymph only, will be attended with well-marked local symptoms, with great pain and tenderness, and would be termed acute.”—p. 46.

He then continues:

“It is a truth that cannot be too strongly enforced, that it is the nature of the *cause* of an inflammatory disease, that mainly deters

mines its course and character, and the influence of remedies over it."

Although we agree in the opinion expressed in the last sentence, yet we do not think he has clearly or satisfactorily made out his objections to the terms "acute" and "chronic," as we do not know of any case of inflammation of the liver running *rapidly into abscess* (we quote his own words), which could justly be styled *chronic*, and we certainly would both term and treat, as acute, a case (*attended with well-marked local symptoms—with great pain and tenderness*), of inflammation of the liver.

He ranges inflammatory diseases of the liver under the following heads :

1st. Suppurative inflammation.

2nd. Gangrenous inflammation.

3rd. Adhesive inflammation, or inflammation that causes effusion of coagulable lymph.

4th. Inflammation of the veins of the liver.

5th. Inflammation of the gall-bladder and ducts.

Following out his original proposition as to the influence exerted over the liver, by the particular cause of inflammation, he gives a summary of sixty cases of abscess of the liver; sixteen from the works of Andral and Louis; twenty-nine from Annesley, and fifteen from his own practice in the Dreadnought, where he enjoyed peculiar opportunities of investigating the subject.

We must say that it reflects no credit on either Dr. Budd's judgment or research, to have made no mention of the several interesting examples of this lesion reported by Drs. Graves and Stokes, in the fifth volume of the Dublin Hospital Reports, and which he ought (in justice to the medical literature of our common country) to have included in the category.

"The most frequent cause of abscess in the liver is suppurative inflammation of some vein, and the consequent contamination of the blood by pus."—p. 49.

He then goes on to prove satisfactorily (from the experiments of Dr. Saunders, and the researches of Dance and Cruvelhier, as well as the evidence afforded by the microscope), that the pus of those scattered abscesses is not simply deposited from the blood, but that it is formed, as in other cases, by a process of inflammation, in the parts in which we find it.

"The veins that feed the porta, are little exposed to accidental injury, but some of their branches are divided in operations on the

rectum, and for strangulated hernia, and these operations are sometimes followed by abscess of the liver."—p. 56.

The consideration of these cases lead him to what he conceives to be the most frequent cause of abscess of the liver, viz :

"Ulceration of the large intestines, or of the intestines, the stomach, the gall-bladder, or ducts, parts which return their blood to the portal vein, to be thence transmitted through the capillaries of the liver."

He then goes on to prove the intimate connexion between abscess of the liver and dysentery, from the cases recorded by Annesley, Andral, Louis, and himself, which certainly bear him out in his opinion, that there must be more than a mere coincidence of diseases, having no relation to each other, and though in many cases it is impossible to say which of the two affections had the priority, yet in some cases "it was impossible to resist the conclusion, that the abscess of the liver was not only consequent on the dysentery, but caused by it(a)."

The question now arises :

"Is it not so caused in all the cases, or in most of the cases, in which the two diseases are associated?"—p. 61.

This is a difficult point to ascertain ; Annesley, whose experience has been very extensive, admits that abscess of the liver is in some cases consequent on dysentery, and caused by it ; but that this is not necessarily the case, as in India, the symptoms of liver disease sometimes precede those of dysentery, but Dr. Budd is not satisfied with this admission, but gives it as his opinion,

"That in all the cases, or most of the cases, in which abscess of the liver and dysentery are associated, the former disease is the consequence of the latter."—p. 64.

We do not agree with him, however, nor do we think he has sufficient data to bear him out in this opinion, which, moreover, is not original, as Broussais long since announced that, as a general rule, all inflammations of the liver are secondary to a gastro-enteritis ; and the same doctrine has also

(a) In a recent Report on Hepatitis in Algeria, published in the *Journal de Medecine*, by M. C. Broussais, it is stated, that the soldiers seldom suffer from affections of the liver for the first year, but that fever and dysentery are very common ; and the connexion between hepatitis and dysentery is evident, for in sixty-six cases of hepatitis, there was in four, diarrhœa alone, in sixteen, dysentery alone, and in five fatal cases of hepatic abscess there was a chronic ulceration of the colon.

been ably dwelt upon by Dr. Stokes, in his articles in the *Cyclopædia of Practical Medicine*: to neither of these authorities has Dr. Budd alluded, which we think, in justice to the cause, he ought to have done. He explains clearly and satisfactorily the *modus operandi* of the one disease in inducing the other, which is not by spreading of the inflammation, but by some contamination of the portal blood, either by pus, formed by suppurative inflammation of one of the small intestinal veins, or by the fœtid gaseous and liquid contents of the large intestines in dysentery, which must be absorbed, and conveyed immediately to the liver.

He proceeds to prove, that these secondary abscesses are owing to this contamination of the portal blood, and adduces cases to shew that they are occasionally consequent on ulceration of the stomach or gall-bladder—parts which, like the larger intestines, return their blood to the portal vein. He also gives the notes of a case, in which the contaminating matter was brought by the splenic vein.

He sums up by,

“Abscess of the liver seems to occur chiefly in conjunction with the sloughing ulceration in acute dysentery, and with chronic ulcers, attended with thickening and induration of the submucous areolar tissue.”—p. 71(b).

Dr. Budd then passes in review—and, we think, too slightly—the various other causes (usually assigned) of abscess of the liver; but we do not believe he is right in his allusions to congestion of this viscus, we mean the inflammatory form (for we are surprized that he should even speak of mechanical congestion as a cause of abscess), which Annesley has laid great stress on, and cases of which we have met with, requiring active antiphlogistic and mercurial treatment to prevent the formation of abscess, but which can be prevented if taken in time.

We were, therefore, not prepared to meet this statement:

“Of the other kinds of congestion, and the points in which they differ from states to which the term “inflammation” may properly be applied, we know but little.”—p. 72.

The question is discussed as to whether pain in the right

(b) In the valuable museum of the Richmond Hospital in this city, there is a cast of a liver, in which there were three large abscesses. The man died of dysentery (he never had presented any symptom of hepatic disease), and there was found extensive ulceration and sloughing of the mucous membrane of the colon, a cast of which is also preserved in the same museum.

shoulder is an attendant on hepatic disease, and Dr. Budd cites the opinions of Louis and Andral as against it; but he states that he agrees with Annesley, who considers it a sure indication, that the disease is in the right lobe, and he gives the notes of five cases in which it occurred in his own practice; he regards it as a truly sympathetic pain, a symptom analogous to the cough and vomiting which so often occur in hepatic affections, depending solely on irritation of the liver, and not, as M. Louis has asserted, on inflammation of the mucous membrane of the lungs and stomach(c).

His remarks on the termination of abscess of the liver, prove that he is more familiar with the subject in a pathological than a practical point of view; or he has been very unfortunate in the class of cases he has met with. Thus, with reference to the abscess discharging its contents through the lungs, he states :

“ I have met with one instance in which a patient who had all the symptoms of abscess of the liver discharging through the lung, so far recovered that he left the hospital apparently well ; but such a happy result is very rare, and happens, I imagine, only when the abscess is small, or recently formed.”—p. 88.

And again :

“ The fatality has no relation to the outlet by which the matter has been discharged. I have met with several cases in which the abscess opened through the abdominal parietes, and all of them proved fatal, so that it seems doubtful whether such an opening be more favourable than one into the intestine or lung.”—p. 89.

Now with regard to these statements, let us see what is the opinion of Dr. Stokes, in his valuable article in the *Cyclopædia of Medicine* :

“ The first of these terminations (perforation of the diaphragm, and communication with the lung) appears to be a not unfrequent, and perhaps the most favourable of the internal openings of the abscess. Many patients have recovered where this lesion undoubtedly occurred, as indicated by the fact of their presenting all the symptoms of hepatic abscess, both constitutional and local, which subsided upon the occurrence of a sudden and copious expectoration of purulent matter, which had not been preceded by any symptoms of purulent disease.”—p. 46.

In his remarks on the treatment, Dr. Budd says :

“ In this country, mercury has been generally resorted to when

(c) In the Report on Hepatitis in Algeria, M. Broussais observed pain in the shoulder in eleven out of seventy cases.

the local symptoms have led to the suspicion that the liver was diseased, but, I fear, with no benefit to the patients.”—p. 90.

and quotes Abercrombie in support of his opinion; but he has either overlooked or mistaken that it is the indiscriminate use or abuse of mercury, that Abercrombie decries, for, in p. 35, (third edition), he (Abercrombie) says :

“ In both acute and chronic diseases of the liver, when the activity of the disease is subdued by antiphlogistic remedies, benefit is obtained from the cautious use of mercury.”

Dr. Stokes is of the same opinion, for he writes :

“ After the employment of local and general bleeding, the production of ptyalism appears to be the most powerful means of subduing the disease.”—p. 58.

This means, of course, before suppuration has taken place; as he directs that “ if, after the use of mercury for three or four days, free ptyalism be not induced, the remedy should be omitted,” as he quite agrees with Annesley in the opinion, that resistance to the action of mercury is a proof that abscess has formed in the liver.

Dr. Budd then says, that

“ Many physicians have recommended that abscesses of the liver should be opened, but there is much danger in the practice.”—p. 91.

And with reference to the ingenious plan recommended by Dr. Graves of this city, and published in the fourth volume of the Dublin Hospital Reports, (viz., of making an incision over the most prominent part of the tumour, through the abdominal muscles, so as to excite a circumscribed inflammation of the peritoneum, and thus produce adhesion between the opposite layers, so as to prevent extravasation of matter into the cavity), he says :

“ I have tried this mode of proceeding twice, but with very unsatisfactory results.”—p. 95.

Now with reference to this summary way of pronouncing judgment on such an important operation, from the result of two cases, let us see what is the real state of the case. Dr. Stokes says :

“ It is, without question, a most important addition to the surgery of the abdomen, and has been repeatedly acted on with success in the Meath Hospital. The operation has every thing to recom-

mend it, it is perfectly safe, productive of no distress to the patient, prevents the chance of effusion into the abdomen, and has been proved to be efficacious."

We have analyzed this chapter more closely than usual for the limited nature of a review, but we have done so from a conviction of its practical importance, as well as from the great opportunities Dr. Budd has had of observing the disease, and the attention he has paid to it, leading us to suppose that it is his favourite subject; but, unfortunately, he is so absorbed by his opinion of the abscess being secondary to suppurative inflammation of the portal vein, that he appears to overlook the most common cause, at least in this country, viz., acute inflammation of the substance of the liver. His ideas on this subject are evidently too limited, and he does not appear to recognize sufficiently the great influence which the state of the constitution exercises over the local changes of structure. There is, perhaps, a little too much dogmatism also in his opinions relative to the appearance of the matter contained in abscess of the liver, which he asserts is white, or yellowish, like that of a phlegmon; but Annesley, whose experience has been much greater, states

"that the matter contained in those abscesses presents various appearances, sometimes a yellowish brown, or greenish tinge, occasionally a greenish yellow hue, sometimes watery and reddish brown."

Dr. Budd has omitted to mention the occasional and not very uncommon mode of evacuation of the matter of an abscess of the liver through the lung, by that kind of vicarious action similar to what takes place in some cases of empyema, which have been observed and particularly noticed by Drs. Green, Stokes, and Mac Donnell; cases which have so often been mistaken for phthisis, and in which recovery has taken place, without the true nature of the disease having been suspected, or (in the case of abscess of the liver) the process by which the evacuation of the purulent matter was effected, being understood. For a remarkable instance of this latter form of termination, we are indebted to the kindness of Dr. Corrigan, under whose care the patient was; and the following sketch of the case is taken from the case-book of the Whitworth Hospital, by his permission(*d*):

(*d*) The morbid specimen was shewn at the Pathological Society, where Dr. Hutton also exhibited a specimen of abscess of the liver, obtained from a case in which purulent discharge had taken place from the bowels, yet no communication could be traced between the liver and the intestines.

“William Miller, æt. 38, a basket maker, admitted into hospital March 24th, 1841; states that on the night of the 20th, while in bed, he felt as if something had suddenly given way in his right side, and immediately threw up nearly a quart of horribly foetid bruised blood, of a purplish colour; for some time previously, he had been suffering from pain in the right side, cough, and foetid expectoration; had several attacks of hæmoptysis before this, and in large quantity each time. On admission, his skin was dry and hot, though at night he perspires freely, and also during the day, if he falls asleep. Countenance not anxious, frequently flushed, respirations 36, breath very offensive, expectoration copious, semipurulent, shreddy, streaked with blood, horribly foetid; the patient himself compares it to highly tainted meat; the cough is frequent, not paroxysmal; there is not much prostration, but he says he is weakened by the perspirations; pulse 96, feeble; he never had received any injury of the side. He cannot lie on the right side, as a sense of suffocation comes on if he attempts it; he has no pain while lying on the left side, but if he lies on the right side, or back, or if he coughs, it causes pain. He always considered himself a healthy man until about eight months ago, when he first felt the pain in the side, with cough; he was temperate, except that he drank one glass of whiskey every morning. The expectoration has always been of the same colour and consistence; bowels generally constipated; urine natural; the right side of the thorax sounds comparatively dull on percussion, particularly anteriorly; respiration on this side audible throughout, but feeble, with sonorous and mucocrepitating rales postero-inferiorly, on deep inspiration, or after coughing; bronchial respiration in front at epigastrium; respiration perfectly natural over left lung; great tenderness on pressure over epigastrium, and left lobe of liver, and also on pressing under cartilages of false ribs at right side; there is œdema of this side, posteriorly and laterally over the liver, and extending up to the nipple. On the 27th he had a severe rigor, which lasted some hours, but not succeeded by any exacerbation of the symptoms; there now appears a remarkable fulness in the right hypochondriac region when he sits up; there is also pain on pressure; *the respiratory sound is heard at the epigastrium during inspiration, and the expiration is very loud; this is not constant.*

“31st.—Had a slight rigor. April 1st.—An abscess was now observed beneath the left clavicle; this was opened on the 9th, and exit given to half a pint of very foetid matter, similar in appearance and colour to what had been expectorated.

“16th.—A severe rigor, after which he sank rapidly, and died on the 18th(e). On dissection the liver was found much enlarged and softened, an abscess the size of a hen egg was situated in its upper and anterior part, between the right and left lobes, containing a small quantity of very foetid purulent matter, of a greenish yellow

(e) There was no trace of the abscess which had appeared under the clavicle.

colour, with a streak of blood through it; the walls of the abscess were irregular, jagged, and formed by the substance of the liver; no communication could be discovered between it and any other organ; the stomach and intestinal canal were healthy; the right lung was compressed upwards, its inferior lobe much congested, and softer than natural; the bronchial membrane throughout both lungs was more vascular than natural, and the bronchial tubes filled with a secretion of foetid purulent matter tinged with blood, similar to that found in the hepatic abscess, and to that expectorated during life. The diaphragm was perfectly healthy, there were no adhesions either on the convex or concave surface."

After treating of the inflammatory diseases of the liver, the next chapter is devoted to the consideration of cancer of this organ, a subject which deserves an attentive examination, considering its great frequency, and the constant mistakes that are made, either by condemning curable cases of chronic hepatitis to a fatal termination, and thus by a fault of omission neglecting the treatment that could restore the patient to health; or, on the other hand, by overtreating or rather maltreating cases of incurable malignant disease, as chronic inflammatory affections, and thus hastening the unfortunate patient's end, as well as aggravating his sufferings, by the administration of mercurials, &c., always productive of serious injury to a constitution already debilitated by the presence of malignant disease: and, in some cases, often embarrassing the practitioner by inducing, or at least increasing, the tendency to hæmorrhages, which so often attend the latter stages of malignant disease of the liver. In a case we lately witnessed, where the miserable patient had been subjected to a mercurial course (for a supposed empyema) in consequence of which some of his teeth fell out, hæmorrhage to an alarming extent succeeded, and continued oozing constantly for forty-eight hours, attended with the most frightful prostration of strength. Cancer is found more frequently in the liver than in any other organ: "No serious organic disease of this viscus is in this country—at least among people who have never drank hard—so frequent as cancer." The formation of cancerous tumours in it is generally consequent on cancer of some other part, especially the stomach and breast. The first token of the deposit of cancerous matter discoverable by the naked eye is a change of colour, which is limited to two or three contiguous lobules, or even to a single lobule, the tint being white or dark-coloured, according to the variety of cancer.

He attributes the central depression which is so often seen in superficial tumours, to strangulation of the central part of the tumour; but we think that Carswell's mode of explaining it

is more satisfactory, viz., "that it is produced by the peritoneum adhering to the surface of the tumour when small, and preventing its development in that direction;" this also exemplifies the character of the peritoneal inflammation which is excited by cancer, it is always adhesive and generally partial.

"Every variety of cancer except the gelatiniform or colloid has been met with in the liver."

Erasmus Wilson, in the *Cyclopædia of Anatomy and Physiology* (article, Liver), states that it does occur there, and writes his description of it from a specimen before him. We know that colloid cancer occurs in the stomach and omentum, but have never seen it in the liver, so we cannot decide between them.

He says (page 303), not unfrequently cancerous matter may be formed in the veins of the liver.

We wonder he has not alluded to the opinion of Cruveilhier, who considers the venous capillary system as the primary seat of carcinoma, and gives the details of a case, in which he traced the ramifications of the portal vein, filled by cancerous matter.

The liver is generally much enlarged, extending below the false ribs, and even to the brim of the pelvis, but in some rare cases it may be smaller from the cancerous tumour pressing in the lobular substance, and thus causing atrophy of the same portion.

The section on the dissemination of cancer is well written, and gives a brief *resumé* of the present state of our knowledge on the subject. Cancerous degeneration may take place in two ways—1st, by inoculation, or the mere contact of a sound part with a part affected with cancer, without any vascular connexion between them: 2nd, by cancerous matter conveyed by lymphatics and veins, to other parts of the body, and this usually takes place in the direction of the current of blood, or lymph. Then when cancer originates in the stomach, secondary cancerous tumours form in the liver, before they form in the lungs; for the cancerous matter brought in the portal blood is usually detained in the substance of the liver, as are the globules of pus in purulent phlebitis, instead of passing through to contaminate other organs.

Cancer of the liver is rare in persons under the age of 35, except as a consequence of cancer in some other part; but secondary cancerous tumours form more frequently in the liver, in children affected with cancer, than in grown-up persons, because children are subject only to the soft and vascular

varieties of cancer; but in adults, the period from 35 to 55, during which functional disorder of the liver is most common, seems to be that in which cancer most frequently originates in this organ.

Nothing is known of the conditions that dispose to it. He considers high living and indolent habits as a proximate cause, but does not mention moral causes, which, we think, exert a powerful influence in predisposing to it, particularly if the patient have at any time previous to the symptoms of functional disorder, received any injury in the region of the liver.

The symptoms of the disease are well drawn up, but present nothing new: and as to the evidence derived from physical examination, we have been disappointed, as, though Dr. Budd states that enlargement of the liver is the most constant sign, yet he does not point out any means of diagnosing it from other tumours in that region; nor does he even allude to the labours of others in that department, of Dr. Bright in particular, who has given excellent directions on the subject. The peculiar kind of jaundice, as also the character of the alvine evacuations, have not received from him the attention which they deserve, though they are of great assistance in forming our prognosis, particularly the greasy state of the evacuations, and the irregular distribution of bile in them: subjects which, together with the state of the urinary secretion, we trust he will enter more fully upon, should another edition of his work be called for. He appears to have entered too minutely into the general history of cancer, and its pathology, to the exclusion of the more important practical points, particularly of diagnosis.

We must now draw our remarks to a close: the care and minuteness with which we have examined the chapters on abscess of the liver and cancer, sufficiently testify that we consider the opinions and statements of Dr. Budd worthy of careful study; and we trust any remarks we may have made may be taken in the spirit they are meant, namely, with the desire of more fully elucidating the subject. Dr. Budd is evidently a sound and observant physician, but he does not always take a sufficiently extensive view of his subject, thus, in his chapter on abscess, his conclusions are evidently solely drawn from the cases which have occurred in his practice in the Dreadnought hospital ship, and are not applicable to the pathology or treatment of abscesses of the liver, occurring under other circumstances. We regret that he has not given a few coloured plates illustrative of some of the morbid changes of the liver;

for though his plates of gall-stones are beautifully executed, yet they are not sufficient to illustrate so comprehensive a work.

With these exceptions, Dr. Budd's treatise will be found a valuable addition to our literature; should a second edition be called for, we hope there will be more stress and importance given to the subject of diagnosis, on which point, particularly as regards physical diagnosis, there is much to be filled up.

Traité de Matière Médicale, et de Thérapeutique appliquée à chaque Maladie en particulier. Par le Docteur F. FOY. Paris, 1843. 2 vols. 8vo. pp. 628, 714.

Traité de l'Art de Formuler. Par le Docteur MIALHE. Paris, 1845. 1 vol. 12mo. pp. 214.

Vade Mecum de Médecin Praticien. Par MM. J. G. AMÉDÉE MOURE, et J. HENRI MARTIN, Docteurs en Médecine. Paris, 1845. 1 vol. 12mo. pp. 628.

Elements of Materia Medica and Therapeutics. By EDWARD BALLARD, M.D., and ALFRED BARING GARROD, M.D. London, &c. 1845. 1 vol. 8vo. pp. 447.

A CONSIDERATION of the various works published on Materia Medica, both on the Continent and in this country, within the last few years, cannot fail to impress on any observing mind a doubt as to what is really meant by this term as applied to a distinct branch of medical science. The same uncertainty must also be felt by students who have attended the lectures of different professors on this subject, inasmuch as scarcely any two of them can be found to agree, either with reference to the arrangement which they follow, or the materials of which they treat.

We find some authors and lecturers writing and speaking about materia medica as if it consisted of nothing more than a mere catalogue of drugs, with an account of their pharmaceutical history and the processes by which the officinal preparations are obtained from them—reducing it, in fact, to mere *pharmacy*. Others again appear to consider that its most useful feature is, that the different substances of which it is composed may be described with reference to the position which they occupy in the organic and inorganic kingdoms of nature, and that it thus affords them an opportunity of giving

a concise detail of natural history and of chemistry. While in the present day we find but few who, believing a knowledge of *materia medica* to be of the utmost importance to the practising physician, view it principally with relation to therapeutics, and devote their attention especially to the physiological action and practical employment of medicines.

This want of precision as to what a course of lectures or a treatise on *materia medica* should include, has been, we think, productive of great evil. In the one case, the student finds his mind distracted by the minute Natural-historical and pharmaceutical details, which he hears on a subject he believed to be a purely practical one; and in the other, a physician discovers that a work, which he has procured for the purpose of obtaining an account of the application of medicine to the treatment of disease, consists principally of an outline of chemistry and botany, to the almost total exclusion of therapeutics.

It is time, then, if *Materia Medica* is to be any longer recognised as a separate branch of medical knowledge, that the specific objects which it includes should be accurately defined, and that it should no longer be composed, as it now chiefly is, of materials collected from the various accessory sciences of medicine. And, in our opinion, the first step to a right understanding of the subject is, that it should be viewed in the same light as it was by Dioscorides, the most renowned of all the ancient writers on *Materia Medica*, who, to use the words of his commentator Matthioli, *materiam medicam pertractaturus, duos esse præcipuos medicinæ scopos censuit, sanitatis conservationem et morbi curationem.*

The importance of an attention to this principle, which, it is evident from his writings, was kept so prominently in view by this celebrated author, appears in the present day to influence the French writers on *Materia Medica* much more than it does those of this country. And this fact has been very strongly impressed on us by a perusal of the different works whose titles we have placed at the head of this article; for while, in the three French treatises, the therapeutical action and mode of administration of medicines are most particularly dwelt upon, the English *Elements of Materia Medica* is principally composed of botanical and chemical details culled from the most recent works on those two sciences. To prove the correctness of these observations, we shall now proceed to give a short account of the contents of the volumes before us, and freely comment on their relative value as we proceed.

The work of M. Foy consists of two volumes, the first of which treats of *Materia Medica*, that is an account of the origin

of medicines, their physical and chemical characters, their adulterations, medicinal properties, doses, and pharmaceutical preparations; and the second is devoted to therapeutics, or an account of the treatment specially applicable to the cure of each disease. In the first volume, the arrangement adopted is what is called a physiological classification of medicines, one in which they are treated of with reference to their employment in the cure of disease—a classification which, though of necessity imperfect in the present state of our knowledge, is, we think, from its practical value, to be preferred to any other.

The Author commences his treatise with a short introduction containing concise but excellent observations on the natural history of medicines, and on the various classifications of the *Materia Medica*, with a table of that which he has himself adopted. He then proceeds to describe the various remedies that are employed, which, to use his own terms, he in general does with the most scrupulous exactness; but we must confess that M. Foy occasionally betrays much ignorance of what has been done in the British Isles, principally as relates to the commercial history of those drugs which are procured from the British Colonies. This is apparent from his description of aloes, in which he omits all mention of Indian aloes, one of the most ordinary commercial varieties of the present day; and in which also he confounds Cape aloes, often met with now of very fine quality, with coarse Caballine aloes. This volume is nevertheless worthy of high commendation, containing as it does a tolerably accurate view of *materia medica*, and not overburdened with theoretical, chemical, and botanical details. It contains, moreover, the best account which we have met with of those preparations of iron recently introduced into medical practice.

The second volume consists of an account of the treatment adopted by the most celebrated physicians in all parts of the world for the cure of diseases; and for any person wishing to ascertain at a glance the different remedies that have been used in the treatment of a special disease, it contains a vast amount of information. The following short extract will suffice to shew the method adopted by our author:

“*Laryngeal Phthisis* (Ulcerated Laryngitis).—In the acute stage of simple laryngeal phthisis, it is requisite that the patient should dwell in the country, particularly in a warm climate, and should observe absolute silence; leeches in large numbers, and frequently repeated, are to be applied to the neck, also emollient cataplasms; at the same time a blister, or, preferably, a seton should be inserted into the nape of the neck. Warm humid vapours,

obtained from aromatic balsams, are to be inhaled daily. Pain and cough are to be alleviated by means of narcotics applied in the form of liniment or by the endermic method. If this treatment fails, we must have recourse to cauterization with solution of nitrate of silver (Trousseau), to insufflation of powdered alum (Aretæus, and afterwards Brettonneau), of powdered sugar, alone, or mixed with subnitrate of bismuth; to calomel (Trousseau and Beloc), to the use of sulphuretted mineral waters, &c."

"Ulcerated laryngeal phthisis, of syphilitic or cancerous origin, requires a special and specific treatment."

Doctor Mialhe's Treatise on the Art of Prescribing has been written with the intention of calling the attention of the profession to the modern chemical theories of the German school, and to endeavour to explain the action of medicines on the animal economy by a reference to the changes which they undergo in the chemical laboratory. In short he considers that "we are to believe that all the organic functions are produced by the aid of chemical reaction, and that a living being is to be considered only as a chemical laboratory in which certain operations take place, their result constituting life." Although we do not agree with our author in the extreme chemical views which he adopts as the basis of correct prescribing, we nevertheless think that the effect of the free acids of the stomach on medicines is too often overlooked, and we are, therefore, much pleased with the publication of a work which cannot fail to direct the attention of the practising physician to the changes which may be thus produced in his prescriptions.

The Author first propounded his views in 1841, four years before the publication of the present work, and which are dependent on the truth of the following proposition :

"That any internal medicine, to have a real, or, to speak more correctly, not local action on the animal economy, must be soluble, or capable of becoming so by means of chemical reactions taking place in the stomach."—p. 17.

This proposition Dr. Mialhe first applied to the explanation of the therapeutical properties of the mercurial and ferruginous preparations, a memoir on which subject he presented to the Academy of Sciences in 1842, and which he has reprinted as an appendix to the volume now before us. And in this essay he applies the same principle to account for the medicinal action of carbon, iodine, sulphur, phosphorus, arsenic, cobalt, alum, magnesia, lime, baryta, zinc, lead, tin, bismuth, copper, silver, gold, platinum, antimony, resins, turpentine, balsams, fixed oils, and the vegetable alkalies, to which he adds

his recent observations on mercury and iron. He first propounds his views of the mode of action of those different substances, and then gives formulæ for their administration in accordance with those views. This part of Doctor Mialhe's essay does not admit of any analysis, inasmuch as nearly every line of it contains some practical observation of importance to the prescriber. We must, therefore, be content with strongly recommending its perusal to such of our readers as wish to become acquainted with circumstances, a knowledge of which must, undoubtedly, render them more correct therapeutists.

The author devotes a separate chapter to the examination of the chemico-therapeutical action of caustics and astringents, which contains some very interesting practical views, and concludes his work with a general review of the mode of action of medicines, and of poisons, from which we make the following extract :

“ Effect of Medicines administered after other Medicines.—

If there exists the least doubt in the mind of any practitioners as to the possibility of the accumulation of those medical agents, whose history I have now sketched, the relation of the following facts will most probably remove it. A few glasses of lemonade made with tartaric acid produced vomiting and diarrhœa in a patient who some days before had taken protoxide of antimony. Is it necessary to add that it is to the tartrate of antimony that was produced, that this double therapeutic action should be ascribed? A solution of iodine administered to a patient labouring under disease of the skin, a short time after the cessation of the use of a depurative ointment containing calomel, gave rise to excessive salivation, an effect produced by the bichloride and biniodide of mercury, to which the iodine solution had given rise by reacting on the protochloride of mercury still existing in the system.”

“ And we cannot think that it is insoluble medical substances only, which have the property of remaining a sufficiently long period in the animal economy, to urge upon us the necessity of taking this fact into account with reference to the prescribing of medicines to be afterwards administered: for chemical analysis demonstrates that active soluble matters exist in the secretions in appreciable quantity many days after they have been taken. It is thus, for example, that a medical student, who had used iodide of potassium for a long time, suffered from severe ptyalism after having taken only about four grains of the proto-iodide of mercury.”—p. 243.

The *Vade Mecum* of Drs. Moure and Martin is a compendium of special therapeutics, of pharmacy, and of pharmacology, and is a tripartite work, each part being devoted to one of those subjects. The first division treats of therapeutics, and

is on a somewhat similar plan to the second volume of M. Foy's work, but the diseases, instead of being classified, are taken in alphabetical order, which, for a simple book of reference, as this is intended to be, is certainly the most convenient. The treatment adapted for each disease is also given in much more concise language, and the medicines referred to are indicated by numbers which refer to the prescriptions, forms for which are found in the second part of the volume.

The second section forms a very complete formulary, containing no less than 1718 prescriptions, most of which are selected from continental hospital formularies, and from the writings of the most celebrated French physicians. We subjoin a few, selecting some of those for medicines not yet in general use in this country :

"*Ammoniacal Beer*.—Take of muriate of ammonia, ʒiiss.; table beer, ʒxvi.; mix. To be administered in doses of a wine-glassful in scrofula, typhoid fevers, diabetes, abscesses."

"*Purgative Biscuits*.—Take of jalap, ʒv.; sugar, ʒxxx.; flour, ʒiv.; make into 15 biscuits, one to be taken in the morning for a dose."

"*Bolus of Arnica*.—Take of arnica flowers, camphor, and treacle, of each, grs. viii.; divide into two bolusses, to be taken daily in paralysis, catarrhal and adynamic fevers, diarrhœa."

"*Collyrium of Cadmium*.—Take of sulphate of cadmium, gr. iss.; rose water, ʒiv.; liquid laudanum, m. xv.; mix: useful in chronic ophthalmia, ulcerations of the cornea, conjunctivitis, retinitis."

"*Electuary of Tannin*.—Take of tannin, grs. x.; conserve of roses, ʒii.; liquid laudanum, m. viii. Mix. To be taken in three doses daily in obstinate chronic diarrhœa, in hemorrhages, in rachitis."

"*Lozenges of Iodide of Iron*.—Take of iodide of iron and saffron, of each, grs. xv.; mucilage of tragacanth, sufficient to make 100 lozenges. Dose, ten daily in scrofulous affections, skin diseases, amenorrhœa, &c."

"*Pills of Monesia*.—Take of monesia, grs. xv.; musk and camphor, of each, grs. vii. ss.; mucilage of tragacanth, a sufficiency. Make into pills of one grain each. Dose, two to four, morning and evening in catarrh of the bladder, leucorrhœa, &c."

"*Pills of Arseniate of Iron*.—Take of arseniate of iron, grs. ii.; extract of hops, ʒi.; licorice powder, ʒss.; syrup of orange flowers, a sufficiency to make 50 pills. Dose, one daily in cancerous affections, obstinate cutaneous diseases, &c."

"*Solution of Arseniate of Ammonia*.—Take of arseniate of ammonia, grs. vi.; distilled water, ʒvii. ss.; spirit of angelica, ʒss.; mix. Dose, m. xv. to m. xxx. daily in any fit vehicle. In psoriasis, lepra, &c."

The Third Part, or compendium of Pharmacology, contains a concise but accurate description of the different substances used in medicine, their incompatibles, and the best forms for their administration; the whole arranged in alphabetical order, but preceded by a physiological classification. In fine, the work forms a most complete and accurate compendium of Materia Medica, and one which we can recommend in the highest terms to our readers, as affording them, what the authors intended, a *practical vade mecum*.

The Elements of Materia Medica of Drs. Ballard and Garrod, though, as the Authors themselves in their preface honestly confess, that "it is nothing more than a compilation in so far as the description of the drugs is concerned, for which purpose the large works on Materia Medica have been carefully collated and very freely used," does not at all come up to our ideas of what a treatise on this subject should be—intended, as it is said, "for students, as well as gentlemen in considerable practice." Its great defect is that which, we have already stated, characterizes many of the modern works on Materia Medica, a sacrifice of the *practical* and *useful* to the *theoretical* and *elementary*. But, as we shall shew, before we are done, it also contains numerous imperfections and omissions.

The work commences with a therapeutical introduction by Dr. Ballard, containing some general remarks on the classification of medicines, a physiological classification, and observations on the *modus operandi* of each class. We cannot agree with Dr. Ballard as to the great stress which he lays on the presence of nitrogen in the active principles of vegetable drugs, as a theoretical means of predicated their activity, for although it is found to exist in some of the most active of them, chemical analysis shews that it is present in much greater quantity in *theine*, *caffeine*, *theobromine*, and *altheine*, comparatively inert substances, while it is completely absent from *elaterine*, *salicine*, and *quassine*.

The classification of Dr. Ballard, though it can be scarcely called original, is an excellent one, and the observations on the physiological action and the therapeutical employment of each division of medicinal agents, are concise and judicious; in short, this chapter appears to us the best written and most useful in the whole book.

We have next a chemical introduction by Dr. Garrod, extending to sixteen pages, which we cannot avoid saying is completely out of place in at least an elementary work on Materia Medica; burthening as it does a treatise, already too concise,

with incomplete chemical descriptions which the student will find in full in the modern works on chemistry.

The entire of the Inorganic Materia Medica, which is also written by Dr. Garrod, is disposed of in 93 pages of loosely-printed type, and is, as may well be supposed, very imperfect. No reference whatever is made to the adulterations of many most important medicines that are met with in commerce in a very impure state; for example, *creasote*, *sulphuric acid*, *tartaric acid*, *bitartrate of potash*, *bicarbonate of soda*, *ammonia*, &c. The exact proportion of cold or hot water in which the various substances are soluble, a point of the utmost importance with reference to prescribing, is not mentioned; and the forms in which they should be prescribed, as also the best menstrua for their administration, are altogether omitted. The account of the operation and uses of medicines is also most meagre; we thus have but sixteen lines devoted to calomel, three to antimonial powder, no mention whatever being made of James's Powder, and only two to sulphate of soda.

In what may be called the second division of this book, the Vegetable and Animal Materia Medica, which is altogether written by Dr. Ballard, nearly the same defects are manifest. There are Botanical and Natural-historical introductions; the former occupying twenty pages, and merely containing concise descriptions of the natural families of plants, evidently condensed from Dr. Lindley's *School Botany*, a work in the hands of nearly every medical student: indeed it is admitted in a note that the diagrams on wood are, several of them, *copied* from this work. The account of the adulterations is here also very imperfect; and no mention is made of the incompatibles either in this or in the former part of the work, one of the most important points to be impressed on the mind of the student of Materia Medica, and one of the most useful for the practising physician to be able to refer to at a glance. The botanical characters of some unimportant medical plant, as of *Cardamine pratensis*, or of *Rhamnus catharticus*, are given at full length, while those of an important one, as of the *Acacia catechu*, or of the *Ferula assafoetida*, are altogether omitted.

In the Appendix we have a description of medicinal agents very commonly used now in the practice of medicine, but which were omitted from the body of the work as not being officinal in the London Pharmacopœia. For this reason also no mention whatever is made of the officinal preparations of either the Dublin or Edinburgh Pharmacopœias, an unpardonable omission in an English treatise on Materia Medica, and one

which, of course, renders it useless to Irish and Scotch students and practitioners.

The Index, even, cannot call for our approbation, being very deficient; the Latin names for the medicines are in general only given, and some of these are omitted. Thus Hops and Galls are not to be found either under their English or Latin denominations; and although we find *Hydrargyri chloridum*—a wrong appellation, as our Authors themselves admit—calomel is not to be met with.

We have thus freely pointed out the numerous deficiencies of this work, the more especially as we felt ourselves called upon to examine with a critical eye a new work on *Materia Medica*, when so many excellent treatises on that subject in the English language have appeared within the last few years, in order to enable our readers to judge of its pretensions to supersede any of them.

The Modern Treatment of Syphilitic Diseases, both primary and secondary. By LANGSTON PARKER, Surgeon to the Queen's Hospital, Birmingham, &c. &c. 2nd Ed., 8vo., London, 1845, pp. 228.

IN noticing the former edition of the work now before us, we were reluctantly compelled for want of space, (a very limited number of pages being then afforded us for the purpose of review,) to take merely a cursory glance at the contents of the little unpretending volume, whose whole design consisted in "usefulness" without any vain pretensions to "originality." We gladly embrace the present opportunity, which presents in a second and more enlarged edition, of entering more in detail into the merits of the work, which is not less distinguished for the deep research of its author, than the clear methodical style that pervades its pages, facilitating at the same time the object of the reviewer, and aiding not a little the wants of the practitioner and the student, who, from a multiplicity of other engagements, is, for the most part, precluded from referring to the original works, from whence the deductions are drawn. The intention of the author is best delineated in the preface to the first edition, which we prefer giving in his own words:

"Usefulness and not originality, has been the great object I have consulted in composing the present work. It contains little, and, I believe, no theoretical matter, except, perhaps, the account of

Mons. Ricord's researches "on Inoculation," in reference to syphilis. I originally intended, and to the best of my ability I have carried out my intention, that it should contain only the result of generally received modern experience on the treatment of syphilitic diseases. I have adopted no party in the question, as will be perceived by a perusal of the work, not agreeing exclusively with the mercurialists on the one hand, or condemning the remedy *in toto* on the other, in accordance with the principles of the rational, or physiologic school, or the partisans of the simple treatment. I have endeavoured to hold out to the confidence of the reader those plans of treatment, and those only, which are calculated to cure his patient the most speedily and with the greatest safety."

And in the preface to the present edition he states as follows :

"Six years' additional experience, both in hospital and private practice, has enabled me to confirm the efficacy of most of the plans of treatment recommended in the first edition of this work."

While, however, the opinions of Wallace, Desruelles, Cullerier, Ricord, and other modern writers, are particularly alluded to, we cannot but regret that the valuable statistical paper, read before the Surgical Society of Ireland, by Dr. Egan, of the Lock Hospital, Dublin, and subsequently published in the 80th number of the Dublin Medical Journal for May last, has entirely escaped the notice of our Author, more especially as it bears directly upon many controverted points, to which, in the course of our review, we shall have occasion to advert. But to proceed :

"In the aphorisms of this pathologist (Broussais), many opinions are promulgated in reference to syphilis, which are contradicted by all ancient and modern experience, and even by the most candid of the followers of the physiologic school. We do not consider syphilis a mere irritation, independent of any specific character, as the researches of Ricord, and others amongst the moderns, sufficiently prove. It is a specific disease, inasmuch as many of its forms may be propagated by inoculation, and thus disease of a precisely similar character produced. It is a disease of irritation, inasmuch as all venereal sores are accompanied by a greater or less degree of inflammation, the intensity of this inflammation, and consequently the violence of the disease, depending on the constitution of the patient, the circumstances in which he is placed, his habits of living, and the local treatment of the syphilitic sore."—p. 3.

Although we are far from denying that constitution, and mode of living, may exercise some influence on the character

of a venereal sore, yet we cannot admit, as some authors would lead us to suppose, that sores on the parts of generation owe their precise characters, solely, to these governing causes. We are informed, for instance, that in the Lock Hospital in this city, many of the patients, whose habits of living, previous to admission have been most intemperate, and whose constitutions are necessarily rendered irritable, suffer merely from a mild form of sore, unattended with induration, and accompanied with no very high degree of inflammation, which generally yields to topical treatment in a few weeks; whereas, on the other hand, in some whose habits have been temperate, phagedæna of a most destructive nature was evident on their application at the institution.

“In all venereal affections, whether primitive or secondary, the diet should be light and unstimulating, and directly proportionate to the degree of irritation accompanying the disease, to the age, and idiosyncrasy of the patient. It is difficult (says M. Cullerier) to conceive why the regulation of diet, so important in all other diseases, whether acute or chronic, should have been totally neglected in the management of syphilis. The patient should be placed upon the lowest possible diet, when the local venereal affection is accompanied by much inflammation, or irritability, when the affections are numerous in the same individual, if the disease be constitutional, the principal viscera in a state of excitement or irritability, and the subject young and vigorous. This regimen should be still more closely adhered to if the affection occur in spring or autumn, and is yet more strongly indicated if the patient be subjected to a mercurial course.”—p. 4.

We fear the above precautionary measures are too much neglected in this country, and regimen is too apt to be disregarded, in the treatment of syphilis, on this account we have selected the above quotation selected from Cullerier.

“In the treatment of almost every form of primary syphilis, more particularly that of the ulcerated kind, local bleeding by means of leeches should be adopted with extreme caution. If leeches are applied in the vicinity of an inflamed chancre, the bites will very probably become inoculated with the virus, and fresh chancres be consequently produced. If, again, as some writers recommend, leeches are applied in the centre of a venereal sore, with a view of diminishing the inflammation which surrounds it, the tissues become poisoned to the extent in which they have been divided by the bite of the leech, and hence an extension of the ulcer in depth will take place.”—p. 8.

Although some authorities are in favour of local bleeding to venereal sores, amongst whom we may mention Mr.

Lawrence, who affirms that he has never seen any ill consequence ensue from such practice, yet we would be exceedingly cautious in recommending this line of treatment to others, much less in adopting it ourselves, more especially as the indications required can be generally accomplished by other remedial agents; we, therefore, fully concur in the opinions of the writer of the paragraph just cited.

"I have treated numerous patients in private practice, on the simple or rational plan, and the result of my experience has shewn, that when the primary sore has not been characterized by an indurated base or edge, and has not left behind it in healing any induration of the cicatrix, the relapses have not been more frequent than under ordinary mercurial treatments, and certainly not so frequent as when a mercurial course has been irregularly followed, whilst the patient has been saved much time, and been spared much inconvenience. In these instances also, the secondary or constitutional symptoms, when they have occurred, have generally been very mild, consisting, for the most part, in red or slightly copper-coloured patches (*roseola*), or small pustules thinly scattered over the trunk, face, and extremities, with superficial inflammation, or ulceration of the fauces. These symptoms have generally very quickly disappeared under the use of the vapour and mercurial bath, and there has been no farther mischief."—p. 10.

The second chapter is devoted to the consideration of the mercurial treatment of syphilitic diseases, and the following queries are propounded, and answered rather fully :

"Why is mercury to be employed in the treatment of syphilis? When is it to be employed? What are the stages of the constitution, and of the sore, which are to guide us in pursuing its use, or giving it up? And when is it to be discontinued? It is not necessary that mercury should produce salivation, in order that its benefits in curing primary syphilitic ulcers, or diminishing the chance of secondary symptoms, may be realized. What, then, are the rules to guide us in these circumstances? How long is our patient to be submitted to the use of mercury, and when is it to be discontinued? The healing of the sore without a thickened condition of the cicatrix, is our rule for the discontinuance of mercury."—pp. 11-16.

We have long been of opinion that the rule just prescribed for the discontinuance of mercury, is, to say the least of it, very vague, and, if acted upon, is often attended with very injurious consequences, as our readers are well aware that induration frequently remains many weeks, nay, even sometimes months, after the healing of a chancre; to persevere, therefore, till the complete removal of this effect, would be, in many instances, to

prolong pyalism to an unwarrantable extent. It has fallen to our lot to witness many patients, who having undergone the sad ordeal of treble salivation, on account of a lingering induration : return with a severe form of secondary and tertiary symptoms, and with a constitution not a little undermined by former treatment, again to submit to the favourite panacea, the *sine qua non* of the inflexible practitioner. We may refer to the experience of Dr. Egan, on this point, whose ample opportunities in the Lock Hospital, afford him abundant means of testing the matter at issue. In twenty-four cases of indurated sores enumerated by this gentleman, he observed that

“Induration disappeared in eight, after moderate salivation, in the remaining sixteen it continued for a considerable time after the effects of the mercury had worn off; nevertheless, I did not perceive any ill effects follow, although many of them I detained longer than I would otherwise have done, anticipating such an occurrence(a).”

The third chapter is occupied principally with Ricord's experiments on inoculation ; the following passage we select as containing a very accurate description of the appearance and progress of the inoculated part :

“If matter be taken from a chancre, during the period of ulceration, and introduced under the epidermis, by means of a lancet, it produces the following effects : During the first four-and-twenty hours the puncture becomes more or less inflamed, from the second to the third day, it is accompanied with slight tumefaction, and presents the appearance of a small papula surrounded with a red areola ; from the third to the fourth day, the disease assumes a vesicular form, the epidermis being raised by a fluid more or less opaque, presenting at its apex a small dark point ; from the fourth to the fifth day, the contents of the vesicle becomes purulent, the apex of the pustule depressed, resembling very much the pustule of small-pox. At this period the areola, which had progressively increased, begins to diminish, or altogether disappear, particularly if the disease does not increase after the fifth day, however, the subjacent and surrounding tissues, which hitherto had undergone little or no modification, or were merely slightly œdematous, become indurated by the extravasation of a plastic lymph, which communicates to the touch the resistance and elasticity of cartilage. after the sixth day the contents of the pustule thicken, the pustule itself shrivels up, and is covered with crusts. These enlarge towards their base, and, forming by successive strata, at length assume the form of a truncated cone, with a depressed apex. If these crusts are detached, or if they fall off, we find under them an ulcer, with the hard base of which we have spoken, extending through the

(a) Dublin Medical Journal, vol. xxvii. p. 184, May, 1845.

whole thickness of the skin. The surface of this ulcer, of a deep red colour, is foul, covered with a thick adhesive pultaceous matter almost like a false membrane, which cannot be removed by any attempt to clean the sore. The edges of the ulceration at this period, appear as though it had been dug out from the surrounding parts, by a sharp circular instrument. The immediate vicinity of the sore is surrounded by a red, dark, or livid margin, more elevated than the surrounding parts. In the present state of science all we can say is, that certain ulcers, the result of sexual intercourse; and not distinguishable by their external characters from other ulcers equally the result of sexual intercourse, yield a characteristic pustule by inoculation, but the ulcers which do not yield the characteristic pustule, are equally liable to be followed by secondary symptoms, and are equally benefited, under many circumstances, by mercury."—pp. 20-26.

Having employed inoculation on an extensive scale, as a differential diagnosis in sores contracted by impure sexual intercourse, we can fully bear out the experience of the Author, as we have obtained the characteristic pustule as well from the simple non-indurated sore, as the Hunterian chancre, and in many instances secondary symptoms succeeded to primary ulcers, which were apparently uninoculable. Much, however, must depend upon the stage of the sore from which the virus is taken.

"We believe, with the best pathologists of the day, that gonorrhœa, though the result of impure cohabitation, and hence termed a venereal disease, is an affection of a totally different character to the primitive syphilitic ulcer. We do not believe the opinions of the late Dr. Wallace, and others, to be true, that syphilis and gonorrhœa are varieties of the same disease; modern testimony, drawn from the results of inoculation, universally proving that the pus of chancre has never produced gonorrhœa, and the reverse." "During the course of a gonorrhœa, the patient is not unfrequently tormented with pains in the groins, weight and dragging in the testicles, irritation in the rectum, tenesmus, with retention or incontinence of urine. These depend chiefly on the localization of the primitive disease, and are easily explained by the anatomical relations of the urethra. Fever of an inflammatory or intermittent character is sometimes present, and affections of the joints which have been described by some authors, under the title of gonorrhœal rheumatism."—pp. 40-44.

In the summer of 1843, we were consulted by a middle-aged gentleman, for a gonorrhœa complicated with a severe form of phymosis. Owing to this latter circumstance, inflammatory symptoms ran high for the first few days of the disease; upon their subsidence the left ankle was attacked with excruciating pain, accompanied with considerable redness and

swelling; the knee of the same side in a few days afterwards was similarly affected, and lastly acute scleritis terminated this form of erratic rheumatism. The urethral discharge was very much diminished during the continuance of these attacks, but on their disappearance was completely re-established.

"I have hitherto said nothing about the use of mercury in gonorrhœa, because I do not believe in the specific effect of mercury in purely gonorrhœal diseases. Dr. Wallace employed it constantly in gonorrhœa, till the system was brought slightly under its influence, with the view of preventing bubo, and secondary symptoms. I believe this opinion to have originated, as I have before stated, in a false notion of the pathology and nature of this disease."—p. 56.

"A chancre, when first presented to the notice of the surgeon, is generally in one of two states, either in that of a small pustule, with its contents yet undischarged, or a minute ulcer. In whatever state it may be, our first duty is to endeavour, by the use of escharotics, to convert the specific sore into a simple one. For this purpose, most authors recommend either a strong solution of the nitrate of silver, or the application of the caustic in substance."

"If mercury be given for the cure of a primary venereal ulcer, it should not be used till the patient has been prepared to receive it, by adopting for some days the regimen laid down, and till all inflammation produced by the action of the escharotics has subsided; it may then be employed with every hope of realizing its most beneficial effects. To throw it carelessly in without these precautions, under a vague impression that mercury is a specific for syphilis, is worse than injudicious, it is criminal, and cannot be too much censured."—pp. 88-93.

The tenth chapter is devoted to the consideration of phagedæna, and is principally taken up with Dr. Wallace's classification, and his particular views as regards treatment. Whilst we are ever anxious to award the meed of praise due to the labours and scientific research of any individual, however humble his pretensions may be, whose object consists either in the elucidation of a particular subject, or the simplifying of it by means of classification; and whilst we are far from depreciating the merits of our late talented fellow-countryman, Dr. Wallace, candour alone prompts us to confess, that, however ingenious the classification he has founded, and however pleasing to theorists, it is only calculated to embarrass the practical surgeon in the treatment of this destructive form of the disease.

"Surgeons are divided as to the propriety of a mercurial treatment in phagedænic primary syphilis, Mr. Carmichael agreeing

with the French school in rejecting the remedy as most dangerous, and deceptive in every variety of the disease."

"Sir George Ballingall, after an experience of many years, informs us in a recent work, that he quite accords with Mr. Carmichael."

"Mr. Key, in his reports of the primary syphilitic cures occurring at Guy's Hospital, states, that in the constitutional treatment of these sores, mercury is wholly inadmissible.

"The recorded experience of most modern writers on syphilis, to whatever school they may belong, proves that there are constantly occurring cases of phagedæna so intractable under the ordinary treatment, that mercury is fled to as a last resource, and there are many of these in which it is perfectly successful.

"Nor must it be denied," observes Mr. Mayo, "that occasionally a short and brisk course of mercury will give a new turn to the complaint, and cause these troublesome sores at once to close. This remedy, however, should be the last resorted to."—pp. 111–113.

To the experience of the above authors, we may add that, from having witnessed the injurious effects resulting from the use of mercury in phagedæna, we never employ it ourselves, except where all other remedies have failed, or when the disease is in a chronic state.

"Venesection, and tartar emetic in the inflammatory forms, and dilute nitric acid, or the hydriodate of potass, with sarsaparilla, opium in large doses to allay pain, &c., are the remedies most commonly useful. In the way of local treatment, which is very important, no applications are better than strong nitric acid, or the acid nitrate of mercury, used freely to the sore, and repeated till a clean vascular surface comes into view. The first or second application is not attended with considerable pain, as the disorganized surface tends to protect the more sensitive parts underneath, but as the slough becomes detached, the pain is increased on each successive application. If the slough be reproduced, it may be dressed with equal parts of balsam of Peru and castor oil(*b*)."—p. 119.

"Mr. Parker, states, that bubo may be of two kinds, either simple or syphilitic, and may be either a primary or secondary affection, succeeding either to chancre, gonorrhœa, or balanitis, or making its appearance without any one of these diseases having preceded it. The true venereal bubo is most commonly preceded by one of the affections I have mentioned, but may occur, though rarely, as a primary syphilitic symptom; it is then termed '*bubon d'emblée*;' authors are divided as to the frequency of its occurrence under the latter form; I believe it to be very rare."

(*b*) See "Egan on primary and secondary Phagedæna," Dublin Journal, January, 1845.

"The method originally proposed by M. Malapert, a French army surgeon, is perhaps well calculated to disperse the incipient bubo. This method consists in the application of blisters, and a solution of the bichloride of mercury. The bubo is to be covered with a blister about the size of half a crown, larger or smaller according to the size of the tumour: the following day, when the epidermis is detached, a small portion of lint is to be moistened in a solution of the bichloride of mercury, and laid upon the denuded surface. This is to be kept in its place for two hours by bandages, or strips of adhesive plaster, when it is removed a dark brown eschar will be found already formed. The parts are now to be covered with a simple poultice, or cooling lotion, or a solution of opium, and the patient is to be kept as quiet as possible, till the eschar thus produced has separated; when this has taken place, the tumour is found materially diminished, or altogether gone. If the tumour be of large size, or very indolent, a second, or even third repetition of the process may become necessary."—pp. 123-126.

We have for a long time employed this plan of treatment for the dispersion of buboes, with very happy results. A solution of hydriodate of potash and iodine—a scruple of the former to ten grains of the latter, dissolved in an ounce of spirits of wine—is a formula highly spoken of.

"Nodes, as they are commonly termed, result from an effusion or deposit between the periosteum and bone, the result of inflammation affecting one or both of these parts. Very commonly they are dependant upon a superficial inflammation of the bone itself. These effusions between the periosteum and bone may consist of serum, pus, or lymph. Again, nodes commonly are produced by an effusion of a proper osseous matter, similar to the provisional callus first thrown out in cases of recent fracture." "Venereal diseases of the bones and periosteum, we have now learned, may in many instances be treated by iodine, and the hydriodate of potass, as successfully as by means of mercury, at least it becomes our duty, generally speaking, in these affections, not to have recourse to mercury till we have tried these medicines and proved their inutility. Venereal nodes, too, will often return, after they have been treated by mercury, and it thus becomes certainly a much more prudent course, to try the effect of the preparation of iodine than to submit the patient again to mercurial treatment."—pp. 178-180.

We have had an opportunity of instituting a comparison between the two modes of treatment, viz. that by iodine and mercury in syphilitic nodes, and we can confidently state, that the former is by far the safest and most certain remedy, although perhaps its effects are not so quickly apparent as those

produced by mercury ; the cure, however, is much more permanent, and relapses occur far less frequently. We have also noted the different results of local treatment, and have long since (except in very rare instances) relinquished the plan of incision, and confine ourselves to blistering, painting the surface over with a solution of iodine, and when much pain or tenderness on pressure is complained of, applying a plaster of belladonna. In the twenty-second chapter, a variety of useful formulæ for the administration of "particular remedies in the treatment of primary and constitutional syphilis" are to be found, to which we beg leave to refer our readers. The last chapter contains a summary of the Author's views respecting the treatment of syphilis, in which he recommends the mercurial vapour bath, as a useful adjunct, particularly in the more protracted forms of the disease. Before taking leave of the subject of this review, we feel called upon again to express our approval of the manner in which the facts contained in Mr. Parker's work are digested and condensed, so as to form a concise *resumé* of all the modern opinions and practice pursued at the present day, and it gives us pleasure to find that the Author, whose experience has been by no means inconsiderable, does not advocate the employment of any specific, falsely so called, to the exclusion of other remedial agents, but is guided by a variety of circumstances which it is unnecessary here to reiterate, in the selection of the various medicaments enumerated in the work.

A Dictionary of Practical Medicine, &c. By JAMES COPLAND, M. D., F. R. S. Part 10.

It is now many years since the appearance in quick succession of the two first parts gave earnest of the speedy completion of a work which was even then acknowledged to be without a rival in our age and country ; it is still far from completed, and, probably, in this particular only has it disappointed the expectations of its numerous readers and admirers.

As a compilation it claims the highest praise for the wide range and *bonâ fide* character of its research, and the general excellence of its selections. As an original work on practical medicine it has considerable, though far from equal merit ; the matter of Dr. Copland's contributions is generally sound and judicious, but there appears too much effort at originality.

We would much prefer his careful and judicious gleanings, commented on when necessary, to the frequent parade of trivial cases culled from his own practice, and equally trivial quotations from his own writings. The assiduity with which certain legislators notoriously study and refer to their own sayings in Hansard's Debates is rivalled by Dr. Copland, who loses no opportunity of inserting his own name and works in his bibliographical references, and even introducing long extracts from the *London Medical Repository* and other stale productions, the connexion of which with the subject matter in hand is often very remote indeed.

It could not be expected that an author so desirous of shining as an original should be always careful to do justice to others, and accordingly we meet in the part before us with numerous instances of neglect of the writers who have published the same or similar views to those entertained by Dr. Copland. Thus, on looking over the article on diseases of the pancreas, we found that no allusion is made to Dr. Battersby's elaborate paper in the *Dublin Medical Journal* for May, 1844, nearly a year and a-half before the publication of the present part. We think that any candid reader of the two treatises will agree with us, that little less injustice is done to the readers of the Dictionary than to Dr. Battersby by this suppression. It is true that there is a very close coincidence between the views advanced and the writers consulted by both gentlemen, but this is no excuse whatever for Dr. Copland's silence on such a memoir as Dr. Battersby's, in a work professing to be a digest of medical bibliography. Again, in the article "Cholera Pestilence," no mention is made of Dr. Graves's two papers in the sixteenth and seventeenth volume of the *Dublin Journal*. Dr. Copland is a believer in the infectious nature of cholera, and adduces evidence of this fact collected with most praiseworthy diligence from official records in the India House and elsewhere. Dr. Graves long before had published his powerful and elaborate argument for infection, supported by a mass of evidence derived partly from observations made by competent persons in the East, but chiefly from those of distinguished British and Continental physicians. No mention whatever is made of Dr. Graves's labours, and even his second paper, containing a table of the number of cases and proportion of deaths in every town in the empire (*information no where else to be obtained*), is equally passed unnoticed.

Now while our high estimate of Dr. Copland's character

will not allow of our making any captious or invidious comment on this disregard of the labours of the Profession on the Irish side of the channel, we should be wanting in our duty to our contributors if we let it pass without entering our strong protest against it. But it is time to proceed to the more grateful task of introducing our readers to some passages of the work before us. This part is devoted to the consideration of diseases of the pancreas, inflammation of the palate, paralysis, diseases of the peritoneum, pestilence—including cholera—and other minor articles. We open the article on paralysis, and extract some passages containing views which the Author considers his own:

“§ 67. The forms of general palsy to which I am most desirous of directing attention, are altogether spinal. They may occur suddenly, as in cerebral general palsy, or gradually and even slowly. Severe injuries, as dislocation of the cervical vertebræ, laceration of the cord, violent concussion of the spine, hæmorrhage upon the cervical portion of the cord, &c., usually occasion general palsy instantly; but disease seated in the spinal cord or its membranes, or implicating these consecutively, produces the paralytic phenomena much more slowly. Even severe injuries may not be followed by palsy for a considerable period; still, it may be stated that the accession of general palsy from injury, as well as the phenomena characterizing it, will vary with the immediate or more remote effects of the injury upon the cord or its membranes; it being either instantaneous or remote, according to the extent and nature of the lesion produced. A muscular man, aged about 60 years, the father of a late medical friend, when turning in bed, his head being forcibly pressed on the pillow so as to partially raise the trunk, felt something snap in his neck. He was afterwards unable to bend or to rotate the head without causing much pain in the neck. I inferred that rupture or laceration of some of the small muscles or ligaments had occurred, and advised quietude, and various means which palliated the more painful symptoms. Still, the least movement of the head caused distress; notwithstanding this, he travelled outside a coach during the summer to Cornwall, and returned to town; and it was not till sixteen months after the accident, that he complained of numbness and want of power in the left arm; in a day or two the palsy extended to both the upper extremities, but was incomplete in the right; it soon became more general, and in a short time difficulty of breathing, rapidly terminating in asphyxia, supervened. The body was examined by Professor R. Quan and myself, and the second cervical vertebra was found fractured completely across on both sides, the fracture on one side passing close to the base of the odontoid process. Chronic inflammation had extended from the fracture to the theca and membranes of the medulla oblongata;

lymph was thrown out upon the arachnoid surfaces; the membranes, particularly the dura mater, were much thickened, and ultimately the cord at this part was pressed upon.

“§ 68. Next to injury or concussion of the spinal cord caries of one or more of the cervical vertebræ may be considered as a cause of general palsy; but the palsy rarely occurs until the disease of the vertebra has induced chronic inflammation of the cord, with thickening and effusion of lymph, or such a degree of angular curvature as to affect the physical condition of the cord itself. I was lately consulted in the case of a child, twelve years of age, who presented unequivocal indications of caries of one or two of the cervical vertebræ, consequent upon malignant scarlatina. To these supervened incomplete palsy of motion in one arm and hand, which gradually increased and extended to the other arm, and lower extremities, until general and complete palsy of motion existed; sensibility was unimpaired. The bowels were obstinately constipated, and the evacuations black and tar-like. The sphincters were not paralysed; respiration was performed by the diaphragm; and all parts below the face were deprived of motion. The head could neither be rotated nor bent without great pain. The body and limbs were much emaciated. The skin was cool and dry, and covered with a furfuraceous scurf, particularly the scalp. The pulse was very frequent, weak, and soft; the tongue furred and loaded. After persisting for many months in a treatment hereafter to be described, this young lady recovered the use of her limbs; the neck, however, remaining stiff, shortened, and turned a little to one side. In this case, the change produced in the membranes enveloping the cord, or in the theca, was most probably limited to the diseased vertebræ and their immediate vicinity. It is not unlikely, owing to the limitation of the disease, and to the gradual accession and increase of it, that the sphincters continued unaffected.”

“§ 69. General palsy may be only an extension of paraplegia; or, in other words, the disease may commence and continue for a time as paraplegia either complete or incomplete, and gradually extend higher and higher, until the trunk and upper extremities are deprived of motion; sensibility being generally either not at all or but little impaired. In some of these cases the palsy of the lower extremities, as well as that consecutively affecting the upper parts of the body, continues incomplete for a long time; the motions consequent upon volition being imperfect, weak, and vacillating, and executed slowly, tremulously, and with difficulty. In these, the patient often complains of spasmodic or severe pains in the limbs, with a sense of constriction; of spasm, and flatulent distention, with occasional attacks of painful constriction in the abdomen; of want of power over the sphincters, and involuntary discharges. This last symptom often varies much in different cases, and at different times in the same case according to the treatment, &c.”

“§ 70. In other cases the paralytic symptoms either appear contemporaneously in several parts or limbs, some becoming general or

more complete, or extend much more rapidly from the lower to the upper extremities, than in the immediately preceding class of cases. Still, the same symptoms are generally present, only varying in some subordinate phenomena, sometimes continuing nearly stationary for months or years, and ultimately terminating in a similar manner. I occasionally attended during nine or ten years, a gentleman, somewhat above the middle age, who was affected with this particular form of general palsy. It was long incomplete, sensibility being but little impaired, even when the power of motion was altogether lost. Power over the sphincters was only partially retained for some years; but was very considerably increased by opiates conjoined with stimulants and aromatics; at last it was altogether lost. The intellectual powers were unimpaired. Ultimately, cerebral symptoms, followed by coma and death, supervened. Permission to examine the body was allowed by his accomplished and highly intelligent relatives. The membranes at the base of the brain were more vascular than usual, and a considerable quantity of serum was effused. All the spinal arachnoid presented appearances of previous chronic inflammation. It was thickened, covered in parts with false membrane, or adherent to the opposite surfaces by means of cellular bands. The whole dura mater or sheath of the cord, was more or less thickened throughout; and the arachnoid of the cord, where it was not adherent, was opaque and thickened. The venous sinuses, placed between the bodies of the vertebræ and the sheath of the cord, were remarkably dilated and congested, so as manifestly to encroach upon the spinal canal and diminish its calibre, especially at the lowest part of the cord. The cord itself was firmer than usual, particularly in this situation, was somewhat atrophied, and its grey substance was wasted and less apparent. Its vascularity also was diminished, although the spinal veins and sinuses external to the sheath, were remarkably dilated, and congested with coagulated blood.

“§71. Whilst I was treating the above case a respectable tradesman, aged about fifty, came under my care, and was seen by me occasionally, until his death, which took place three or four years afterwards. The symptoms, protracted course, and termination of the disease, were altogether the same as those just described. On examination after death, the lesions found in the spinal cord were also similar to those observed in the preceding case. The chief difference was the less remarkable congestion of the spinal veins or sinuses; although this was considerable.

The consequences of the chronic inflammation of the membranes and the state of the cord itself, were nearly the same as those already described. There was, however, a more abundant effusion of serum between the membranes of the cord than in the former case; and much fluid was found in the ventricles of the brain. The upper portion of the medulla oblongata and the membranes of the base of the brain, presented appearances of recent acute inflammatory action, especially increased vascularity and con-

gestion, with a turbid serous effusion: these corresponded with the cerebral symptoms preceding death."

The congestion of the spinal veins and sinuses, above mentioned, seems to be a favourite theory of Dr. Copland; to it he refers the explanation of the cases of paralysis connected with renal disease, narrated by Mr. Stanley, and of cases of hysterical palsy of the bladder, &c.

"§ 138. I believe that if cases of the kind now adduced were carefully observed at an early stage of their course, sufficient evidence would be found of congestion of the veins or sinuses, placed between the sheath of the cord and the bodies of the vertebræ. This congestion would of itself be sufficient to cause disorder of the urinary functions, and inflammation of the kidneys and urinary passages, which would react upon and aggravate the spinal lesion. In the examination of these cases (Mr. Stanley's) no mention is made of the state of the venous sinuses of the spine.

"§ 139. Palsy is sometimes associated with hysteria, and the association has been remarked in the article *Hysteria* (§ 35). A remarkable case of this complication was lately attended by Mr. Flockston and myself.—A young lady had experienced hysterical symptoms, with irregularity of the catamenia, to which supervened suppression of this discharge, attacks of vomiting sometimes alternating with diarrhœa, and complete paraplegia as respected the power of motion; the sensibility was only slightly affected. The urine required to be regularly drawn off. There was no tenderness in the course of the spine, and all the cerebral functions, the organs of sense, the intellectual powers, and the moral feelings, seemed to be in unimpaired vigour and duly regulated. She had been long ill, and had been under the care of various eminent men, both in London and in fashionable watering-places. The treatment, which will be noticed hereafter, restored her in the course of a few weeks, and after three or four months she was quite recovered.

§ 140. "It is very difficult to explain the connexion between hysteria, or disordered states of the female organs, and palsy, but it is not improbable that many of the symptoms, and particularly those of a paralytic character, arise not merely from irritation propagated from the uterine system to the roots of the spinal nerves, or to the spinal cord itself, but rather from superinduced congestion of the spinal veins and sinuses, the congestion being attended either by interruption of the circulation in the cord, or by compression, or even by both. This change will account also for the frequent connexion of palsy of the urinary bladder with hysteria, even when paraplegia is not present; yet even in these cases, pain in the limbs, with weakness and partial loss of power, are often complained of. When the remote causes of hysteria are considered, particularly in connexion with the effects they produce upon the spinal cord and

roots of its nerves, the frequent supervention of congestion of the spinal veins and sinuses may be viewed as altogether conformable with the laws of the animal economy."

He returns to this subject when discussing the *pathology* of palsy, and advances the following *rationale* of the operation of this congestion as a cause :

" § 185. It will soon become obvious to those who make the early phenomena of disease objects of observation and study, that whatever depresses organic nervous power will soon be followed by venous congestion; and when this depression—whether primary or consecutive of nervous or vascular excitement—has been preceded or is attended by circumstances producing increased determination to a fulness of blood in the capillaries of the cord or its membranes, this consecutive congestion of the spinal sinuses is the more prone to occur. In its primary or uncomplicated states, it seldom produces more serious effects than pain, stiffness, or weakness of the back, loins, and lower extremities, sometimes amounting to incomplete palsy of motion of the latter; often with pain and constriction around the abdomen; and when the weakness or imperfect power of motion is associated with pain, this state is generally confounded with rheumatism or with neuralgia if the pain is severe, and follows the course of a nerve, or with an attack of gout when it occurs in the gouty diathesis.

" § 186. Congestion of these sinuses occasions first-retarded circulation in the cord and its membranes, subsequently an increased serous secretion or effusion between the membranes. Unless the congestion be very great, it can hardly be expected that it should act injuriously on the cord by pressure or counter-pressure of it against the posterior parietes of the spinal canal. Still one injurious effect may be produced in this way, particularly when the congestion has superinduced distention of the capillaries of both the cord and the membranes, with increased serous effusion between the latter.

" § 187. In these more extreme cases, where ulterior changes have taken place, it is not unlikely that the *roots of the nerves* will also suffer from unaccustomed pressure, and in those cases the posterior or gangliated roots are the more likely to experience it, and paralysis of sensation will be present in a greater or less degree, and even be the more complete, inasmuch as the lesion implicates those parts of the roots of the nerves which communicate with the sympathetic, as insisted upon above (§ 181). In cases also of caries and angular curvature of the spine, when not only congestion of the vertebral sinuses but also pressure and counter-pressure of both the cord and the roots of the nerves, and even of the nerves themselves, as they pass through the spinal foramina, are apt to take place. Palsy of sensation is then present, but only in degree proportionate to the extent of pressure on the roots of the nerves, and only in

those cases where the nerves or their roots, especially the posterior, are implicated.

“§ 188. Congestion of the spinal sinuses, with more or less of the consequences now mentioned, is a frequent attendant upon *fevers*, particularly the more adynamic and congestive forms of fever occasioning not merely pains and weakness of the back and limbs, and incomplete palsy of motion of the lower extremities, but also more or less of the affection of the urinary organs already mentioned (§ 57). Many of the cases described as spinal irritation, of hysterical neuralgia, of uterine irritation, &c., are actually instances of congestion of the spinal sinuses occasioning remote or sympathetic phenomena, in addition to those which are more strictly local. These are often removed or partially relieved for a time by the natural recurrence of the catamenia; but when more extensive or severe or when associated with suppression of this discharge, they sometimes lapse into paraplegia or partial palsy, especially when neglected or injudiciously treated, or owing to an increase of the congestion or of its consequences.”

As a favourable specimen of the Author's powers of description, we subjoin the section on

“§ 107. *The general History of Palsies—Of the various Disorders preceding and attending Palsy.*—From the description of the several varieties of palsy, it will be seen that the power of motion is much more frequently impaired than that of sensation; that either may be singly or both jointly affected in various grades, but that when motion is totally lost sensation is frequently more or less impaired; that sensibility is very rarely entirely lost in a paralysed part, and still more rarely over the surface of the body; and that palsy is both preceded and accompanied by considerable derangement of the general health as well as of the nervous system, to which special attention should be directed.

“§ 108. It is impossible to notice all the *premonitory symptoms of palsy*, as the varieties and relations of the malady are so numerous as to render them both diversified and inconstant, and as they depend very much upon the nature of the pre-existing disorder and of the remote causes. Hemiplegic palsy is often preceded by the same premonitory symptoms as have been mentioned in connexion with the accession of apoplexy (§ 4) especially by various affections or disorder of one or more of the senses, particularly of hearing, sight, and touch; by neuralgic pain about the face or head; by twitchings, spasms, or convulsions, by weakness of muscles, or of limb; by headaches, restlessness, sopor, lethargy, or watchfulness; vertigo, faintness, and unsteady gait; irritability of temper, loss of memory; imperfect or difficult utterance; flatulence, costiveness, and various dyspeptic symptoms; more or less manifest indications of irritation or inflammatory action in some part of the brain; epi-

leptic seizures, and, most frequently, apoplectic attacks. (*See above*, 407—*Article*, APOPLEXY, § 4).

“109. The paraplegic and general states of palsy are often preceded by pain in the course of the spine, sometimes resembling and frequently mistaken for lumbago; by spasms or cramps of particular muscles; by pain in the neck, or wry neck; by neuralgic pains; by numbness of the toes or fingers; by attacks of nephritis; by increased sensibility of the surface of one or more limbs, or of the body generally; by costiveness and colicky pains, or obstinate constipation; by retention of or difficulty of voiding the urine; by chorea, partial convulsions, or various anomalous nervous disorders, and by the more limited forms of partial palsy.

“§ 110 b. *The disorders of the nervous System and of the general Health accompanying Palsy* are various in different cases, according to the seat of the malady. In *hemiplegia*, and palsy of any of the organs of sense, the memory, and in severe or prolonged cases, even the intellectual powers are more or less impaired; the palsy extending even to the mental powers. This state, however, is the most remarkable in the complication of general palsy with insanity, hereafter to be noticed. The temper and disposition are often changed from their usual characteristics—persons of a mild disposition becoming peevish and irritable, and those who have been irascible becoming placid; in some cases, the memory chiefly of words or of names is impaired, or perverted so that the patient substitutes those which either are inappropriate, or have an opposite meaning to that which he wished to convey. The powers of attention and application, and mental energy generally, are usually impaired.

“§ 111. The action of the *heart and lungs* is seldom much excited in hemiplegia or cerebral palsy, unless when inflammation of a portion of the brain supervenes upon or attends the lesion causing the hemiplegic state. Nor is the action of these organs oppressed or impaired, unless effusion, so as to cause direct or counter-pressure, takes place, or the medulla oblongata becomes in any way implicated. Hence the temperature of the surface of paralysed parts is seldom lower than natural; and frequently, owing to diminished transpiration from the surface of these parts, it is higher than in other situations.

“§ 112. *Digestion and Assimilation* are often but little disturbed or impaired. In some cases vomiting or nausea, with or without flatulence, attends the accession of hemiplegia; but, subsequently, acidity, heart-burn, or flatulence, is complained of. The appetite is but little impaired, it is frequently keen or craving, and is generally too great for the amount of exercise taken, and of air consumed by respiration, and consequently for complete digestion and assimilation. This keenness or craving appetite I have often remarked as an indication of latent irritation in the substance of the brain. The bowels and liver are usually torpid, and often require chologogues and purgatives to act on them.

"§ 113. The nutrition of a paralysed part is often not materially affected when the disease occurs after the growth of the body has been matured. Occasionally, however, some degree of shrinking or atrophy exists, especially in prolonged cases, owing chiefly to disuse of the muscles. The nerves are also somewhat atrophied; very frequently an œdematous state of a paralysed limb is observed increasing its bulk, although the muscular or other soft parts may be more or less wasted or atrophied. The urinary functions are seldom much affected in hemiplegia and other cerebral forms of palsy.

"§ 114*b*. In *paraplegia and general palsy* the attendant phenomena have been already fully noticed (§ 948, &c.), and consist chiefly of lesion of those functions, which depend upon, or are influenced by the part of the cord which is the seat of disease. As the brain continues unaffected until the fatal termination of the disease draws near, so the mental powers continue unimpaired until that period arrives.

"§ 115. When the medulla oblongata or upper part of the cord is affected, *the action of the heart and lungs* is often much disordered, and if these parts, especially the former, are pressed on or much disorganized, death by asphyxia is more or less speedily produced. In slighter lesions of these parts remarkable slowness of the pulse in some cases, and great rapidity of it in others, are often observed.

"§ 116. Respiration is usually performed chiefly by the diaphragm, and the quantity of oxygen consumed during the process is very small, consequently the heat of the surface is low, and transpiration from it much diminished. The skin is dry, becomes covered with a branny or furfuraceous substance, owing to rapid exfoliation of the cuticle. When the lesion is seated lower in the cord, or so as not to impede the motion of the chest, and consequently not to diminish the action of the air on the blood, the parts below the seat of injury experience diminished or interrupted cutaneous transpiration, and instead of any diminution of temperature they present an actual rise of temperature, owing to the interrupted transpiration, the functions of respiration not being impaired.

"§ 117. *The Heat of the Surface* of paralysed parts depends upon the state of respiration, and the consumption of oxygen in connexion with the amount of transpiration from that surface; for whilst the oxygenization of the blood proceeds without diminution, suppression of the cutaneous transpiration will raise the temperature of the surface on which transpiration is suppressed, but when the oxygenization of the blood is impaired, suppressed transpiration cannot have the effect, or only to a small amount. If the change produced by respiration on the blood be much impeded, the temperature will generally continue much below the natural standard. This appears to me to be the true cause of the different states of temperature of paralysed limbs in different cases, and it is preferable to account for the phenomenon conformably with established princi-

ples, upon which a sound and safe practice may be based, than to mould it so as to suit a preconceived hypothesis, and to make it subserve a doubtful or hazardous treatment."

Under the head of "*Sympathetic Phenomena occurring in Connexion with Paralysis*," the Author gives a lengthened disquisition on reflex action, and other functions of the spinal cord, and combats Dr. Marshall Hall's views on these subjects.

We have neither space nor inclination for any remarks on this controversy, but we must observe that Dr. Copland overrates the originality, and, perhaps, the importance, of his own contributions to the physiology of the nervous system. Dr. Copland can scarcely have read the admirable essays on the ganglionic system of nerves, by Dr. Johnstone, of Worcester, published in 1790, or he would not have put forward his pretensions in the complacent style of the following passage:

"The views published by the Author in 1822, in the *London Medical Repository*, and in 1824, in his *Physiological Notes*, &c. respecting the independent and distinct constitution of the organic or gangliac class of nerves, as to the functions and relations of the nervous system, and as to the influence exerted by this system on the vascular system on the one hand, and on the cerebral system on the other—in short, the positions thus taken from researches in various classes of animals, that all organs and parts that are necessary to the life of the individual animal, and to the perpetuation of its species, are supplied by gangliac or organic nerves in proportion to the importance of each organ, and to the activity of the several organic processes—have been recently fully confirmed by the researches of Stilling, Bidder, Volkman, Wallacer, Hannover, R. Lee, and others."

In connexion with Dr. M. Hall, we are led to remark the want of any notice in this article of that form of paralysis consequent upon loss of blood, of which several cases are alluded to in Dr. Hall's paper on the Treatment of Apoplexy and Hemiplegia, in the *London and Edinburgh Monthly Journal* for August, 1842. There seems reason to believe that the state of anemia sometimes predisposes to cerebral hæmorrhage, and to hemiplegia, requiring a modification of the ordinary mode of treatment. An interesting case, which some time ago came under the care of the writer, bears upon this question. It occurred in a gentleman of middle age, who for years had suffered profuse hæmorrhage from the rectum, and had become so feeble and anemic as to be obliged to give up his accustomed pursuits. He was attacked with hemiplegia and loss of consciousness, at first transient, but soon becoming perma-

nent. A variety of treatment was resorted to without any good effect, when, at the end of several weeks, the late Mr. Colles suggested a trial of mercury, pushed to ptyalism, mentioning that he had in the course of his practice seen *one* similar case recover under its influence. Nothing could be more unpromising than the state of the patient, at the time the mercury was commenced—imbecility being conjoined with the paralysis—but from the day on which the gums became affected the improvement was evident. It was followed by a course of hydriodate of potass, and aided by some counter-irritation. The result was that the patient returned to business at the end of the year, with the use of the side perfectly restored, and is now, after six years, in good health, having had no return of *either* complaint. The history of this case is explicable, perhaps equally so, by either of two pathological states,—the form of apoplectic hæmorrhage referred to in Dr. Hall's paper,—or serous effusion, the consequence of anemia.

The section on treatment is comprehensive and judicious; the following extract is a fair specimen of the Author's mode of treating the practical part of the subject:

“§ 241. Of *blood-lettings*, general and local, it may be briefly stated that they are generally required early in the attack, especially in acute and sthenic cases, and more particularly in the hemiplegic or sanguineous form of the disease. In the paraplegic and partial states of the malady, local blood-letting is commonly to be preferred to general; and in all cases, the quantity as well as manner and repetition of the depletion, should depend upon its effects, the state of the pulse, and habit of body of the patient, as well as upon the predisposing and exciting causes of the attack. We must not however, inconsiderately prescribe either venesection or cupping, in all cases, even of hemiplegia, because we find them to have been advised by Celsus, Zacutus, Lusitanus, Home, Abercrombie, and other eminent writers. The most recent of these writers recommends it too profusely, too generally, and too exclusively, at least as regards the inhabitants of large cities and manufacturing towns, wherein the causes of the malady, and the asthenic states of a very large proportion of those attacked, either admit not of depletion or require very different or even opposite means of cure. During the treatment of both hemiplegia and paraplegic palsy, intercurrent inflammatory action may appear, and require, generally, depletions by cupping or leeches; and the physician should be alive to such an occurrence, when he has recourse to stimulating medicines, in doubtful circumstances and in young persons.

“§ 242. Of *evacuants, purgatives and diuretics* are the most appropriate; and of the former of these the most active should be selected, and such as influence most energetically the principal

secreting viscera, as calomel, colocynth, jalap, scammony, &c. In paraplegia and even in hemiplegia the bowels are very torpid, and require repeated and full doses of these, and even of still more energetic cathartics, as croton oil or elaterium, in some obstinate cases. In many recourse should be had also to purgative enemata, particularly to those in which the oleum terebinthinæ is an ingredient. It is not merely necessary to evacuate fecal matters by means of these, but to employ them so as to derive from the cerebro-spinal axis, any increased flow of blood to it which may have occasioned or prolonged the attack. Indeed with these combined objects they are advised by Hallè, Dalberg, Brodie, and others, who have insisted on their use.

"§ 243. The ancients advised a recourse to *diuretics* in palsy, and some of the medicines prescribed by modern physicians, and considered by them to influence the disease, merely as stimulants, owe no small share of their good effects to their operation on the kidneys. Of these, the most efficient are the tinctura lyttæ, the preparations of iodine, and spirits of turpentine, substances of which further notice will be taken hereafter, which require caution in their use, and which are suited chiefly to chronic and asthenic cases, and in the paraplegic states.

"§ 244. Of *alteratives* the most beneficial and most generally appropriate are *mercurials*, *iodine*, and the *iodides* and *sarsaparilla*. Mercurials employed so as to affect the system, and chiefly by inunction, have been recommended for palsy by Schenck, Schneider, Cavallini, and J. P. Frank, and both internally and externally by Vallisneri, Burger, and many others. I have seen them of service, when judiciously prescribed, in both hemiplegic and paraplegic palsy. J. P. Frank prescribed them more especially for saturnine palsy, in which he has seen them of great service. In acute and sthenic cases, calomel given with antimony after bloodletting, until the pulse is sufficiently reduced, should be preferred; afterwards the milder mercurials may be substituted, and in chronic and asthenic cases, the bichloride may be given in the decoction of bark until the gums are slightly affected, especially in scrofulous and rheumatic constitutions. I lately attended a patient in hemiplegia (Mr. C. of Watling-street), for whom I prescribed the bichloride of mercury, in this combination, a frequent recourse to purgatives and a seton in the nape of the neck, with the best results. His right side was affected, and he can now walk unaided, and write letters and cheques as usual."

The above judicious remarks on *bloodletting* contrast favourably with the advice of Abercrombie, Bright, and others, and with the too common practice of large bleedings in this disease, a practice founded upon no sound principle and undoubtedly productive of much injury. The true plan is to watch the intercurrent inflammation or irritation, and take blood topically, and in this way many cases would be in a

great measure restored, which are now carried off by the conjoint effects of the disease and of the large bloodletting, two things that cooperate to the fatal result much more frequently than is generally supposed.

In the remarks on purgatives and diuretics, no mention is made of *colchicum*, which is a most valuable adjunct to both, acting as it does, both as a powerful cholagogue, and an eliminator of urea. We have had considerable experience in the use of this medicine in apoplexy and paralysis, and we know of none that we have seen equally good effects from, whether given in combination with mercurials and purgatives on the attack, or subsequently at intervals, when threatening symptoms occur in the progress of the case. The extract of the acetum colchici is the form we prefer.

Another powerful agent in the subsequent management of many cases, is also passed by without notice, we mean James's Powder, given in nightly doses of two or three grains, as originally recommended by Dr. Cheyne.

We pass on to the section on the use of *stimulants*.

"§ 247. 'Of this class of medicines,' says the author, 'the resinous *extract of nux vomica* and *strychnine* have been more frequently employed than any other. Of the two preparations my experience leads me to prefer the former, as more manageable than the latter, and equally efficacious. I have usually prescribed it in conjunction with purgatives or aperient extracts.'

We may add that its combination with James's Powder is worthy of trial in the few cases in which it is at all admissible. In the copious list of medicines of this class given by the Author, we have no allusion to the ergot of rye, latterly employed with much success in paralysis of the bladder, &c. We have at present two patients under our care, who have been much benefited by this medicine; both are cases of paraplegia, and in one the power of the bladder and lower limbs has been regained, to a much greater degree than by any medicine previously given—including strychnine, tinctura lyttæ, &c; in the other the bowels, which obstinately resisted all purgatives, have yielded regularly to small doses of the ergot. It, like *nux vomica*, requires to be carefully watched, and should probably be never given unless in very small doses. One of these patients finds a four-grain pill of the powdered ergot a sufficient dose;—two pills would produce unpleasant sensations in the head.

"§ 249. The circumstances which admit of the internal use of stimuli, also allow a recourse to *electro-motive agencies*; and in no

disease have they been more generally and more empirically resorted to than in this."

This passage, probably, is true to a greater extent than it was designed to be. It would not be too much to say, that when the centre of the nervous system is in a state of disease, internal and external stimuli are *alike* inadmissible and useless. It is very questionable if they are of more use after the cure of such disease (paralysis remaining), than before; for the palsy here depending upon an interruption of volition, which has become habitual, nothing short of a strong impulse, which shall be able to restore the volition, can be of any use. This electricity cannot do if the paralysis be anything more than peripheral, as in the case of palsy of the portio dura from cold, &c.; neither will strychnine effect it, except indirectly, although it will produce the most energetic movements in the paralysed limb, of a kind free from the control of the nervous centre; but what these fail to do may be sometimes effected by a strong and sudden impulse, as numerous well authenticated instances prove;—fear, anger, surprise, and other passions, have enabled the brain to resume its control over the nerves of a limb, in a manner similar to the sudden return of memory, by means of some association of ideas presented to the mind. This sudden shock or impulse could not be safely imitated in practice, but it is a safe and rational practice (though not alluded to by Dr. Copland), to train and strengthen the volition, by daily and patient exercise of the paralysed limb—of course, postponing the attempt until all symptoms of cerebral disease are subdued(*a*).

On the important subject of counter-irritation our Author's remarks are meagre and unsatisfactory. He thus disposes of issues :

(*a*) What, in a few words, may be said to be the conditions which admit of the exhibition of strychnine, and render its indirect action probable?

There must be cure of the apoplectic clot or other lesion, and absence of all inflammatory engorgement and irritation.

There must *not* be a mechanical interruption, by the loss of an essential portion of the brain, of the communication between the cerebral centre and the nerves of the limb.

In short there must, to admit of the useful agency of this medicine, be merely the interruption of the habitual control of the brain over the movement of the limb to contend with; in other words, the power of communicating volition, the habit of which has been lost, has to be regained.

Every one is familiar with the fact that it is sometimes suddenly regained, as by strong mental emotions, but we are ignorant of that particular condition, the presence or absence of which constitutes the difference between a limb irrevocably lost, and one, the control over which may be only in abeyance.

Were this ascertained, we might predicate the case in which strychnine would probably produce, indirectly, the effect of a stimulus on the brain.

"§ 252 *b*. Issues and setons are, upon the whole, the most efficacious modes of permanent external derivation in palsy, and the most generally adopted, especially in this country. The former may be made in the scalp itself, by incisions in or near the occiput, peas being afterwards inserted; the latter may be worn in the nape of the neck. They have been praised by Pott, Appleton, Latour, Schreger, Prichard, and Loder, and I have had several occasions of witnessing their good effects."

Surely, the respectable testimony of Dr. Prichard, to the good effects of an issue in the line of the sagittal suture (not in the occiput), in cases of cerebral disease, deserves more than such a mention as the above. We are able to state, from the experience of a good number of cases, that it is a measure second to none in preventing the recurrence of hemiplegic attacks, more especially in the young or middle-aged patient.

Again, on the use of blisters and tartar emetic ointment :

"§ 253 *c*. Blisters kept discharging for a considerable period, or frequently repeated, as advised by Boerhaave, Fordyce, and Dickson; or artificial eruptions produced for a longer or shorter period, by means of tartarized antimonial ointment, or by croton oil, are also frequently of service both in acute and chronic cases, but in the former especially, after local depletions and evacuations have been freely practised."

Had the Author no cautions to impress as to the careless and diffused application to the scalp of the latter powerful agent: or is there no danger of aggravated cerebral or meningeal irritation from this mode of applying it? Again, is it not far more efficient when applied in a concentrated form? The Author might have obtained some useful information, by referring to Mr. Carmichael's paper on diseases of the brain, in the fourth volume of the *Dublin Medical Journal*, in which some most striking instances of the effects of tartar emetic, applied in the latter mode are narrated. It is needless to say, that no notice is taken of this paper.

We now pass on to a brief notice of the very elaborate article on cholera, or, as the Author terms it, choleric pestilence. He differs with those who consider that the disease which lately spread from India over the world has any thing in common with cholera properly so called, and assumes great merit for his own originality, referring to the *Medical Hansard* in proof that he had anticipated the truth.

"So strongly was the Author," says he, "struck by this misapprehension, that in the beginning of 1822, when editor of the *Medical Repository*, after noticing various facts connected with the disease,

he observed: 'A careful review of the symptoms of this disease, convinces us that the deranged actions which take place in the system during its continuance, are no more those to which the term Cholera Morbus ought to be applied, than they are those belonging to fever. It appears that this malady is the result of a peculiar cause which impresses the vital energies of the system in such a manner as to subvert the power of reaction in many cases, and to render it imperfect and unavailing in others without the assistance of art. The cause of the disease seems to act as a poison on the extensive surface of the bronchia and air cells, where the system is most liable to its attack, and in many instances it appears to destroy its victim in a few hours.'—*London Medical Repository*, vol. xvii."

The Author next proceeds to combat the *second* error, viz. "that the malady never exhibited any proofs of infection in the East." This he does at great length, adducing a mass of testimony from the Bombay and Madras Medical Reports. He is intentionally brief (as he informs us in section 80), in his examination of its infectious character in Europe, so that those who wish to collect information on the subject must look elsewhere for it. We may refer such inquirers to Dr. Graves's paper in the sixteenth volume of the *Dublin Medical Journal*, for a highly interesting series of observations which supply the deficiency in Dr. Copland's induction. The observations collected by Dr. Graves prove

1. That cholera followed different courses at different times, chiefly westward in Europe, while it was eastward in India.

2. That in no case did its rate of progress across the sea exceed that of ships.

3. That different towns in Ireland were affected by it sooner or later as their communication with England is more or less direct.

4. That, to use Dr. Graves's words, "cholera has, in no recorded instance, appeared in any place sooner than the ordinary modes of communication might have brought it from some infected station, and that the rate at which it travelled varied with the rapidity of that communication;" and that, "it had no fixed rate of progress," and "has spread in every direction, sometimes travelling northwards, sometimes southwards, and at other times east or west, its route being determined not by the points of the compass, but by the great lines of internal and international communication."

After a long and able argument with the anti-contagionists, the Author proceeds to consider "the disease in relation to its exciting cause, and the effects of this cause on the

vital functions and the blood." The following is an admirable summary of its effects on the latter.

"§ 128. Whatever may be the exact nature of the exciting cause, and whatever may be its mode of operation on the frame—whether the cause primarily affects the organic nervous system, and the blood consecutively through the agency of this system, as now maintained,—or whether it passes at once into the circulation from the aircells of the lungs, and affects the organic nervous system secondarily,—there cannot at least be any doubt of the very remarkable changes produced on the blood in the course of the distemper. The analysis of the blood, of the bile, and of the evacuations, by M. Lecanu, Dr. O'Shaughnessy and others, shew that at an advanced period the blood has lost one half of its serum, a considerable portion of its fibrine, and most of its carbonate of soda; whilst the rice-water-like evacuations consist chiefly of the serum of the blood, containing albumen and carbonate of soda, and other saline ingredients, which are deficient in the blood. When the disease has gone on to the febrile or reactive stage, then urea accumulates in the blood, and even in the bile, owing to the paralysed state of the kidneys. It is not improbable, that a considerable change is going on in a latent manner in the blood before the serous portion of it is discharged from the digestive mucous surface; and that this change takes place chiefly in the lungs, affects the vital relations subsisting between the serum, fibrine, and coloured globules, as well as between the capillary vessels and blood circulating through them, and that the fully developed period of the malady is the result,—first of this change, and second of the evacuation of the serum and other ingredients of the blood; capillary circulation in the vital organs thereby becoming arrested. This state of the blood, in connexion with the impaired functions of the lungs, of the kidneys, and of the liver, is evidently the source of the consecutive fever."

"§ 129. It has been now shewn, both by reference to the appearances displayed by investigations after death, and by connecting these with the phenomena presented by the disease during life, that the requisite changes are not produced upon the blood by respiration; and that the emunctories which remove from the circulating mass those materials which would prove highly injurious and irritating to the frame if they were allowed to remain in it, have their functions entirely suspended; whilst, at the same time, the serous portion of the blood escapes from the digestive canal in so large a quantity as to change the physical condition of the blood in the vessels, and thereby to interrupt the circulating functions in vital organs. Can it, therefore, be a matter of surprise, that when reaction of the vital powers of the system is brought about, very great disturbance, not only of the circulating system, owing to the altered state of the blood, but also of the encephalon, and of the different emunctories, is immediately manifested? Indeed, these consecutive

states of disease, which have been well illustrated by observation, are entirely in accordance *a priori* inferences in pathology."

Dr. Copland's description of the morbid appearance of the disease is full and accurate; the chapter on treatment comprises accounts of the practice pursued by medical men in all countries. He justly remarks, that—

"Indian practitioners, owing to their predilection for the use of calomel, especially at the period of the outbreak of the pestilence in India, and to the absence of bile in the evacuation, had recourse to this medicine generally, in large or very frequent doses, and in conjunction with opium. They imputed too much importance to the absence of bile, looked upon this as the chief source of mischief, instead of viewing it as a part only of the general circle of consecutive disturbance, and aimed merely at removing a symptom without directing attention to more general and important morbid conditions. In certain states, however, of the malady, hereafter to be noticed, and in certain combinations, it was often of more or less service."

The Author thus summarily disposes of a remedy, which had an unequalled success in the hands of the Profession in this country, and which many medical men of high authority (among them Dr. Prichard, of Bristol), pronounced to be one of the most valuable means introduced into the treatment of cholera.

"§ 170. Dr. Graves, impressed with the little efficacy of the means previously recommended, and with justice believing that it was of the first importance to arrest the discharges of the serum of the blood from the digestive mucous surface, recommended full doses of the acetate of lead, to be given with opium—varying the quantity and frequency of the dose with the severity of the case. Previously to the publication of his method, I had been employing the *sulphate of zinc*, with opium, and extract of logwood, and *sulphate of alumina* in similar combinations, with this intention; but my experience hardly enables me to decide as to the comparative merits of either, for each was efficacious in the less violent cases, and inefficient when the collapse was extreme."

We think it likely that Dr. Copland is the only person who ever tried the acetate of lead in comparison with sulphate of zinc, or of alumina, or any other astringent, in cholera, without being satisfied of its superior merits. We cannot but regard the above passage as another instance, in addition to those formerly quoted, of the interference of his egotism with his impartiality as a compiler.

In concluding our notice we feel bound to state that these faults are few and trifling, indeed, compared to the great merits of the work. We hope soon to meet Dr. Copland again.

Urologie. Traité des Angusties ou Retrécissements de l'Urethre et de leur Traitement Rationel. Par le DR. LEROY D'ETIOLLES.

Urology. A Treatise on Contractions or Strictures of the Urethra, and of their rational Treatment. By DR. LEROY D'ETIOLLES. Paris, 8vo. pp. 488, Plates.

IN Paris, more than any other city in the world, what are called "specialities" exist, namely, an undivided or special attention to the nature and treatment of a particular class of diseases. Of these the most distinct are the diseases of the eye and ear; diseases of the skin; deformities in the osseous and muscular systems; as curved spines and club feet, and lithotrity and diseases of the urinary organs. Though this may have the obvious disadvantage of confining the mind so much to the local derangement, that the general system may often be overlooked in the treatment, yet we cannot deny that science has derived considerable benefits from the many talented individuals who have devoted themselves to specialities: to Itard, to Biet, to Cazenave, to Guerin, to Civiale, and lastly to the Author of the present treatise, we willingly admit our great obligations. Most of our readers are aware, that M. Leroy D'Etiolles enjoys great reputation as a successful lithotritist, and as an inventor of some most ingenious instruments, and the present work will certainly sustain his reputation. One cannot help being struck with the extraordinary abundance of invention exhibited in the fabrication of instruments for measuring strictures, for scarifying them, for cutting through them, or removing portions of them, for applying caustic, &c. &c.: in short, accustomed to the simplicity of British surgery in the treatment of stricture of the urethra, we cannot refrain from the question, is all this scarifying, cutting, and cauterizing, necessary? For the majority of cases, certainly not; but on the contrary, this *nimia diligentia* must in most instances so derange the delicate structure of the urethra, as to produce additional diseased action to that already existing.

M. Leroy defines a stricture to be a permanent narrowing of the urethra, resulting from a morbid state of the parietes of the canal. The pathology of strictures he conceives to be less advanced than their treatment; the latter is varied, and generally so successful that a post mortem examination is not very frequent, and, when obtained, the changes after death in

the state of parts are so great that they do not convey a good idea of what they were when living; parts that would then scarcely admit a small bougie, will after death frequently allow a full-sized one to pass. In examining the seat of stricture he recommends not to slit up the whole urethra, but the part immediately above and below it.

Various divisions of strictures have been made. The common English division, originating from John Hunter, is, into permanent, spasmodic, and mixed, *i. e.* spasm occurring in an already permanent stricture. Without denying the spasmodic stricture, which is frequent enough both in nervous men and in hysterical women, we may observe, that what has been often described as spasmodic stricture is in truth inflammatory engorgement of the urethra from gonorrhœa, from having sat on wet seats, from debauch, and the like; this division is, therefore, faulty in omitting a description of narrowing of the passage, which is not permanent, and yet is not spasmodic.

M. Cruveilhier's division is into the superficial (those confined to the mucous membrane,) and the deep, which are of fibrous nature; this is comprehensive, and, with subdivisions, could be made to include all; it has at least the merit of simplicity, which M. Leroy's certainly has not. This latter is a modification of Bulard's, and is as follows:

1. Inflammatory.
2. Fungous.
3. Valvular or "*rutidiques*" comprising folds, valves, bands, and rugosities.
4. Fibrous, answering to callosities.
5. Turgescient and erectile.
6. Ulcerated.
7. Vegetating, answering to carnosities.
8. Varicose.
9. Cartilaginous.

Who, after having read this list, does not find his former notions of stricture, however clear they may have been, hopelessly confused?

Is it not much better to give a short and simple division of strictures, according to their most frequent and simple characters, as in the English or in Cruveilhier's division, and afterwards to subdivide them, than to present so many divisions where the most common are mixed up with the most rare causes, which, perhaps, do not present themselves once in a thousand cases, as the "vegetating," for instance. Next he describes the "fungous" "as depending on a chronic valvular swelling (*boursoufflement*), of the mucous membrane;" now this is

not the idea of fungus conveyed to an English mind; fungus is according to Hooper, (Med. Dic.):

"1. Proud flesh. A term in surgery to express any luxuriant formation of flesh on an ulcer.

"2. In morbid anatomy it is applied to the structure of a part which enlarges, is soft, and excrescential."

In the sense M. Leroy understands fungus, it is clearly but a form of the "inflammatory stricture."

The "valvular" are said to be thus formed :

"I have said in the first chapter that we sometimes meet with valvular folds in the urethra, particularly at the beginning of the prostatic portion, and about an inch from the *meatus urinarius*, or the projection which forms the deep lip of the navicular fossa. These natural folds are not the only ones which oppose an obstacle to the course of the urine, others in much greater number, products of a pathological alteration, are formed sometimes by a simple wrinkling of the mucous membrane, sometimes by the cicatrix of a superficial ulceration. These, as most of the other kinds of strictures, exist at the beginning of the membranous portion.

"M. Civiale says that these bands have their seat on the moveable portion of the urethra: but this must be a *lapsus*, for he adds, 'chiefly in the portion of the canal situated under the symphysis pubis.' Now this portion of the urethra is not moveable. In the first periods of their production these bands are thin, and formed by the apposition of two layers of the mucous membrane; later, their base enlarges by a slow effusion of coagulable lymph, and the thickening of the submucous tissue, but their centre or free border generally remains thin, as may be learned by the impression which they leave on wax bougies, impressions similar to those produced by the constriction of a cord, as Hunter has described."

"*Fibrous* or *callous* strictures are formed at once by thickening, by deep cicatrices of the mucous membrane, and by engorgement of the submucous tissue: from this simultaneous alteration results a substance, which becomes dry, loses its sensibility, assumes a pearly aspect, like that of tendons, but it differs from it by the close interlacement of its fibres. When a sound is passed across strictures of this description, one is struck by the hardness of the tissue, and by the force with which the instrument appears to adhere to it.

"The sufficiently close study that has been made of cicatrices of the skin and of the exterior tissues, can give by analogy a satisfactory explanation of the phenomena which manifest themselves in the tissues of the urethra. The diminution of vascularity of this tissue, demonstrated by the injections of John Hunter, the want of porosity, the almost complete absence of exhalant vessels and absorbents, observed by different authors, and in particular by Dupuytren, explain the dryness of the surfaces. The power of

retraction with which cicatrices are endowed as Delpéch has well observed, exercises itself in a slow but constant manner, and has no other limit, but that which a mechanical resistance as powerful as itself can oppose to it. This concentric retraction explains the always increasing diminution of the calibre of the urethra, and its almost immediate return to its former state of contraction, as soon as we withdraw the means of pressing it outwards by dilatation.

"The fibrous stricture is, according to M. Cruveilhier, not only the most frequent, but almost the only one. As in pathological anatomy especially, the opinion of this professor is of great weight, I will quote his words: 'The fibrous character of strictures of the urethra appears to be a demonstrated fact, for I repeat I have never met with a stricture of another kind; there is complete disappearance of the mucous membrane at the site of the stricture, a disappearance more or less complete of the erectile spongy tissue of the canal of the urethra. If for this fibrous character of the stricture, we seek to ascend to the cause which has produced it, we see that we cannot explain this stricture but in two ways,—first, by a chronic inflammation of the mucous membrane, secondly, by ulceration. We possess too few facts illustrative of the pathological anatomy of the canal of the urethra, in gonorrhœa, to resolve this question in a positive manner. I should be led to believe that these strictures are the result of ulceration; for in the hypothesis of an inflammation it would be very difficult to conceive, how the effects of this inflammation would be nearly always limited to a single point of the length of the canal.'

"As to the therapeutic consequences which flow from the fibrous character of stricture, they are in perfect harmony with the facts: the inconveniences of conical sounds and forcing the stricture with the catheter, the superiority of dilatation over cauterization, the necessity of long-continued dilatation, the disposition of the stricture to return, *the absolute incurability of every stricture of the urethra*—such are the therapeutic deductions furnished by the pathological anatomy of strictures."

Though M. Leroy allows that there is much truth in M. Cruveilhier's opinion, he differs entirely from him in the fact of all strictures being incurable, the superficial kind confined to the mucous membrane being perfectly relieved by judicious treatment.

M. Cruveilhier has observed fibrous strictures of two forms, the first fusiform, the second as if a cord had been tightly tied round the part, forming a narrow circular projection.

"M. Lallemand had also observed and described this engorgement of the submucous tissue, swollen in the middle, forming a projection equally large, external and internal to the urethra, and resembling a spindle."

We may remark that this stricture was well known to Hunter, who gives a plate of it; he does not describe its formation minutely, nor is Sir E. Home more explicit.

M. Leroy's "turgescient stricture" is a swelling of any part of the urethra from an efflux of blood into the spongy tissue external to it; it is often regarded as spasm.

We have no room to go *seriatim* through the other divisions of stricture, and we abstain from any attempt to convey M. Leroy's various methods of treating the different forms of the disease, chiefly because this is accomplished by instruments of novel construction, the description of which without the plates could not be rendered intelligible, and would be useless to the reader and unfair to the Author; it is certainly a work that abundance of practical information may be derived from; and though, doubtless, English surgeons will scarcely be tempted to follow M. Leroy's system of cutting, scarifying, &c., already alluded to, yet many of the ingenious instruments described and portrayed in this very elaborate treatise may, under peculiar circumstances of emergency or difficulty, be found of service. We shall conclude with a brief notice of the Author's opinion and treatment of spasmodic stricture.

He confesses that his own opinions on this difficult topic are not fixed. He considers that many other forms of sudden constriction of the canal have been regarded as spasmodic, particularly of the anterior spongy portion of the urethra. When the instrument is grasped here and impeded in its progress, it is owing to a sudden turgescient erectile condition of the spongy tissue external to the urethra. The real spasmodic stricture occurs at the membranous portion of the urethra; this has been believed by Sir B. Brodie and others to be caused by the contraction of Wilson's muscle. To this he objects that the obstruction is generally felt at the beginning of the membranous portion, and not in the situation of the muscle. He says:

"In my turn I will hazard an opinion: the sphincter ani and the transversus perinei are inserted behind the bulb at the origin of the membranous portion of the urethra; by their contraction they tend to drawn down backwards and laterally, while the bulbo-cavernous, the most external fibres of which embrace the origin of the membranous portion nearly as Wilson's muscle envelopes its termination, draw upwards, forwards, and compress laterally the orifice of the muscular region. From these tractions in opposite directions, by muscles contracted spasmodically or affected with rheumatism (*rheumatisés*) ought necessarily to result a deformity or flattening of this orifice."

"If a metallic sound is introduced, it seems that it comes against

a resisting plane like a partition stretched across; the sound inclines laterally, and turns in the operator's hand when he is about to execute the depression of the handle. To pass on, the beak of the sound must be pressed on the orifice of the membranous portion, and kept there till it opens under this gentle but persevering pressure. If, after two or three minutes, the resistance is the same, we must change our mode of action, bring the handle to the belly, get the beak in deeper, and slowly depress, in order to give to the curve and fold, that we have said the muscular tension produces, the time to become effaced. The obstacle may sometimes be avoided by the *tour de maitre*, the beak resting as a pivot on the bottom of the bulb, engages itself under the fold in the movement of rotation by which the handle is brought up, and then penetrates without difficulty; sometimes one succeeds by balancing up and down the hand which holds the sound; a movement by which the beak, slightly withdrawn from the spongy portion, gently taps with little knocks on the gate which hesitates to open, and seeks to surprise an entrance: this is not a figure of speech to round a period, but the exact picture of what takes place. In some circumstances pressure with the finger under the bulb to raise the end of the sound, and to engage it in the contracted opening, changing the curve of the instrument—such are the manœuvres by which one succeeds in most cases in surmounting the difficulties that muscular contraction induces in the passage at the origin of the membranous portion of the urethra."

Untersuchungen über Magnetismus und damit verwandte Gegenstände. Von dem FREIHERRN VON REICHENBACH.

Researches on Magnetism, and the Subjects connected with it. By BARON VON REICHENBACH.

THE extraordinary nature of the statements contained in this paper have induced us to give an abstract of it; as our space would not permit us to give the whole paper, which consists of 270 pages, forming two supplements to Liebeg's and Wöhler's *Annalen der Chime und Pharmacie* (Bd. liii. Beilage, Erstes Heft). The experiments, (for the accuracy of which, however, we do not pledge ourselves,) although so paradoxical, bear the stamp of truth; they are given with the most minute detail, not alone those which yielded positive results, but those which appeared to contradict the laws which the Author was finally able to deduce from them. His position in society, the persons who saw most of his experiments, or were experimented upon—among whom we will only mention Endlicher the botanist, and Kotschy the oriental traveller, and companion of Russegger in many of his

journeys in the East,—and the character of the *Journal* in which the paper has appeared, certainly shew that his experiments are deserving of some attention. In our abstracts we have endeavoured to give rather the results at which he says he has arrived, than the manner in which his experiments were performed ; but we hope that on this point also we have been sufficiently clear to enable persons to repeat his experiments, which the Author very much desires, and hopes will be done whenever opportunities occur for so doing.

If the poles of a strong magnet capable of supporting a weight of about 10lbs. be passed over the bodies of fifteen or twenty persons, there will always be found some individuals among them who are affected by it in a very peculiar way. The number of such persons is much greater than is generally supposed. Of the above number, there will be three or four at least. The nature of this impression on sensitive persons who, in other respects may be looked upon as perfectly healthy, is not easily described, being rather disagreeable than pleasant, joined with a slight sensation now of cold and now of heat, as if the person were blown upon by a cold or luke-warm current of air. Sometimes they feel contractions in the muscles and a pricking sensation as if ants crawled over the body ; and many persons even complain of sudden headaches. Not only women but even young men are sensible to this influence, and in young children the sensation is often very strong.

In order to produce this effect, it is unimportant whether a bar magnet or a horse-shoe one be employed, provided it is of the strength just mentioned. The passing must be made from the head towards the feet, and not too quickly, the magnet being brought as close as possible to the person without touching the clothes ; and, in order to prevent deception, it may be performed from the back of the head, over the neck, along the back ; as the person thus operated upon does not then know whether the operation has commenced or not, and their account of their sensations will therefore be unprejudiced.

Strong active men and healthy strong women are in general not susceptible of this influence ; but Reichenbach has, however, found many persons who were affected by it, though apparently in the enjoyment of the most perfect health. This susceptibility is most frequent in persons of sedentary habits, though otherwise healthy, particularly among men constantly occupied in writing, and young women employed in sewing ; and further, among persons suffering from secret grief,

deranged digestive organs, and unsatisfied sensual desires. But the half-sick, as they may be called, are, most of them, magnetically sensitive, particularly such as are said to have weak nerves, and who are easily frightened, or who suffer much when frightened; as also numberless cases of real sickness, particularly those accompanied by local or general spasms; during abnormal development of puberty, in epilepsy, catalepsy, St. Vitus's dance, paralysis, and hysteria; and finally all true lunatics, without exception, and somnambulists, properly so called. Sensitive persons thus form a chain from the healthy individual to the sleep-walker, of which a strong healthy man and a weak somnambulist are the extremes.

Actually or apparently *healthy sensitive* individuals discover in their relation to the magnet nothing besides the sensation just described. But the case is very different with the *sick sensitive*: its action on them is sometimes agreeable, sometimes unpleasant—often disagreeably painful to such a degree that fainting, cataleptic fits, and spasms, at times violent and sometimes dangerous, ensue, according to the nature and degree of their disease. In this latter class, to which the somnambulists also belong, an extraordinary increase takes place in the *sensitiveness* of the senses. The patient sees, tastes, and feels better than others, and often hears what is said in the next room. This is, however, a fact well known, and is not by any means unnatural.

The hypothesis that the aurora borealis is an electrical phenomena produced by the magnetism of the earth, the real nature of which is at present unknown, owing to our not having been as yet able to detect an emanation of light from the magnet, led Reichenbach to try whether persons in a state in which the senses were thus sharpened could detect such an emanation from the poles of a magnet. He was enabled to make trial on a young woman named Vowoting, aged twenty-five, who suffered from continued headache, accompanied by catalepsy and spasms. So sensitive was she that she could distinguish all the things in her room, and even the colour of objects on a dark night. The magnet acted on her with extraordinary force; and, though by no means a somnambulist, she was equally sensitive with one.

The experiment was made in a perfectly dark room. At the distance of about ten feet from the patient was placed a horse-shoe magnet, composed of nine plates, and weighing about eighty pounds, with its poles directed towards the ceiling. Whenever the armature of this magnet was removed the girl saw both poles of the magnet surrounded by a luminosity

which disappeared whenever the armature was connected with the poles. The light was equally large on both poles, and without any apparent tendency to combine. The magnet appeared to be immediately encircled by a fiery vapour, which was again surrounded by a brilliant radiant light. The rays were not still, but continually flickered, producing a scintillating appearance of extreme beauty. The entire phenomenon contained nothing which could be compared to a common fire; the colour was much purer, almost white, sometimes mixed with iridescent colours; and the whole being more similar to the light of the sun than to that of a common fire. The rays were not uniformly bright; in the middle of the edges of the horse-shoe they were more crowded and brilliant than at the angles, where they were collected into tufts, which extended further out than the other rays. The light of the electric spark she considered much bluer. It left an impression on the eye similar to but much weaker than that left by the sun, and which did not disappear for several hours, and was transferred to all substances upon which she looked for some time in a painful manner.

These results were verified by a great many trials upon other persons, and much better defined by results obtained with a strongly built young woman named Barbara Reichel, aged twenty-nine. When a child she had fallen from the window of her house, two stories high, and was so injured as to have since suffered from nervous attacks, which sometimes produced a state of lunacy, sometimes somnambulism or sleep-walking. The disease often disappeared for a long time, and again came on. When the experiments were tried with her she had just recovered from a violent attack, but still retained the increased sensitiveness of the sensual organs; she was, at the same time, in full possession of her intellectual powers, and was able to go abroad. She thus afforded the rare advantage of having all the sensitiveness of one really sick, and was, at the same time, in the enjoyment of moderate health.

She saw the magnetical light not only in perfect darkness, but even in a light in which Reichenbach could discern all the objects in the room. In moderate darkness the light appeared shorter and smaller, as in this case she could only see the more brilliant parts.

She not only saw the magnet luminous when unconnected with the armature, but also when connected with it. This, at first view, may appear unexpected, but on a closer inspection of the matter such should be the case. The appearances were,

of course, different. The light on the closed magnet did not concentrate itself on any particular point, as it did on the open magnet ; but the magnet gave off from all its edges, the junctions of the plates, and the angles, a short flame-like light, which had a regular undulating motion ; this, with the eighty-pound magnet, was only about the thickness of the little finger.

When the magnet was opened it yielded a beautiful appearance, described in a figure, which was drawn by Miss Reichel herself, and is represented in the Baron's paper. At each break, caused by the plates of the magnet where they were joined to one another, were formed small flames about the edges and angles, which terminated in a spark-like evolution of light. She described these little flames as blue, and the principal one as white at the base, then yellow, passing into red, and terminating in green. This fire was not still, but flickered and glared continually ; and she could perceive no tendency to unite, or any difference between the poles. On a side view the edges of each plate gave out tufts of a luminous flame-like appearance. She also observed that the whole magnet gave out light, and that the centre or neutral part gave the shortest rays. The appearance of the light along the four longitudinal edges of each plate composing the magnet was extremely curious ;—even where the edges of two contiguous plates fitted one another exactly, and where one would think rays of light given off from each plate must necessarily merge into one another at their bases, they could be distinguished with great accuracy. Where they emanated from the edges they diverged from each other, and converged towards the rays given out from the other edge of the same plate. Similar results were obtained with weaker horse-shoe magnets, though in a minor degree.

On laying a straight bar magnet, about eighteen inches long and one inch square, before her, she made the following representation :—On the north pole, that is the negative end, she saw a flickering flame about half as long as that on the horse-shoe magnet ; that on the south pole or positive end being somewhat smaller, and, like that on the horse-shoe, red at the base, in the middle blue, and green at the top. From the four angles of each pole, there streamed a strong light at angles of 45° each to the surface of the bar ; these possessed a rotatory motion which the central or principal flickering flame did not ; there was thus a five-fold division at each pole. The description of Miss Vowotny agrees perfectly with this : she saw the whole magnet, particularly the edges, covered

with still light, but she could detect no point of neutrality or indifference as in the horse-shoe magnet. The position of the magnet had no influence whatever on the form or direction of the flame.

An electro-magnet acted in precisely the same manner as a permanent steel one ; and when a strong current was passed through the coil, it also gave out light, but, what was very curious, it continued to do so long after the current was broken. A remarkable difference was, however, observed between the flames of the two kinds of magnet, namely, the flame of the permanent one blew that of the electro-magnet away from it, and this with as much force as a blowpipe would a candle.

Reichenbach, in order to be certain that there was actual light given off in these cases, made some very careful experiments with the daguerreotype, the result of which was that an iodized plate was acted upon when placed opposite the poles of a magnet. He was also able to concentrate it with a lens, but the focal length was found to be fifty-four inches, while for a candle it was only twelve inches. He could discover no action of heat with the most delicate thermoscope. In some cases, the patients declared they could see the surrounding objects by means of this light, and that any substance stopped its passage as it would ordinary light ; thus for example, when the hand was laid before the poles, it streamed through the fingers.

From the similarity of this light in many respects to the aurora borealis, Reichenbach considers them identical.

From the observations of Petelin made at Lyons in 1788, and which were afterwards verified by many others, we know that in catalepsy the hand is capable of being attracted by a powerful magnet just like a piece of iron ; and, as Mesmer observed, that water, over which a magnet has been several times passed, can be distinguished from ordinary water by sensitive patients. Reichenbach has fully verified these facts in a large number of persons. He found that this effect took place not only during perfect catalepsy, but even afterwards when the persons were in full possession of their senses. Miss Vowotny described the sensation to him as an irresistible attraction which she felt obliged to obey, though against her will ; that it was a pleasant feeling combined with a cool gentle aura which flowed over the hand from the magnet ; the former feeling as if tied and drawn to the latter by a thousand fine threads ; and that she knew nothing similar to it in ordinary life, it being a peculiar indescribable feeling of refreshing and extra-

ordinary pleasure, particularly if the magnet attracted the right hand, and was not too strong.

He did not, however, verify Thilorier's observation that nervous patients can convert needles into magnets, and he considers in fact the attraction of the hand by the magnet to be of a totally different nature from that between iron and the magnet; this opinion we shall see verified further on.

We have had no instance hitherto of the form or arrangement of the molecules of a body rendering it capable of exerting force on other bodies at a distance, but Reichenbach, by a series of experiments on magnetic water, that is, water over which a magnet had been several times passed, was led to suppose that other bodies could, in all probability, be also rendered magnetic. This he soon found to be the case in a greater or lesser degree; but he also observed that many substances that were never in contact with a magnet affected the nerves, and by extending his experiments, he arrived at the law that amorphous bodies possess no power similar to that possessed by the magnet, but that crystals are capable of producing all the phenomena resulting from the action of a magnet on cataleptic patients. This is true, however, only of single perfect crystals, and not of an agglomeration of crystals, such as lump sugar. Thus, for instance, a large prism of rock crystal placed in the hand of a nervous patient, affects the fingers so as to make them grasp the crystal involuntarily and shut the fist.

This power is not equally distributed over every part of the surface of the crystal, but is found to concentrate itself in two points or poles corresponding to the principal axes of the crystal. Both poles were found to act similarly; but one was generally somewhat stronger than the other, with the exception that one gave out a cool and the other a luke-warm gentle aura.

To produce these effects it is necessary to employ a large free crystal, with its natural terminal angles: the less sensitive the person is the larger must the crystal be. Heavy spar, gypsum, and Derbyshire spar are particularly adapted for this purpose. It is quite immaterial whether the skin of the hand be soft and delicate, or coarse and hard. The crystal is to be slowly passed from the end of the arm over the inner surface of the hand to the end of the middle finger, the crystal being held as close as it is possible to do so without absolute contact with the hand, the time occupied in each passage of the crystal over the hand being about five seconds. Reichenbach found that more than half of all the persons he tried were sensible to its action. It is unnecessary to remark that

this sensation is very slight and delicate. Persons who may be insensible to it one day may feel it the next, or the second day after, or in a week, the sensibility varying in the same person with the time and the state of health. It sometimes occurs that a person finds the first passage of the crystal the strongest, while he does not feel the second and third, and again is sensible to the fourth and fifth. The operation should not be too quickly performed, as the crystal takes some time to act; and during the operation the attention should not be distracted, as otherwise the sensation will not be perceptible. Many persons feel the action better when the passage of the crystal is made in the opposite direction, that is, from the top of the middle finger towards the arm. The south pole generally acts stronger than the north(*a*); but in general the warm aura is not so easily observed as the cool one. The effect is always more perceptible and stronger when the hand is stretched in the direction of the magnetic meridian. It is found that those who drink a large quantity of tea, coffee, &c., can distinguish the various shades of difference in the action of different crystals much more readily than those who do not.

Now, although this power very much resembles magnetism, and, like that power, is polar, Reichenbach found them different in most respects. Thus, crystals do not attract iron filings, impart magnetism to needles, affect the compass needle, or, when freely suspended, place themselves in the magnetic meridian, nor are they attracted when freely suspended by a wire through which a strong current of galvanism flows, nor when placed in a helix, do they induce a current in the latter. We thus see that although the relations of a magnet and crystal to the animal nerves are perfectly similar, yet that their relations, on the other hand, to iron, &c., are completely different.

From this we may conclude that the polar force which resides in the crystal, and the existence of which is shewn by its peculiar action on the healthy and diseased nerves, is not identical with the magnetic in the form we know it. But, on the other hand, it appears that the magnetic force is accompanied in the magnet by the force existing in the crystal, and that the power of the magnet does not consist of one but of two forces, one long since known, and the other now discovered.

(*a*) The north pole of the crystal is that end of it which acts on the patient similarly to the north pole of a magnet, and the south pole to that of the magnetic south pole.

From the mode in which it was developed Reichenbach was led to conclude that this power could be communicated to other bodies, or a charge given to them as with electricity. This he found to be the case, for when any body, even the hand, but particularly metals, were touched with the crystal, they produced the same effect on sensitive persons as the latter; in order to produce this effect it was no matter whether the crystal was passed several times over the object, or merely kept for a short time in contact with it. This charge, unlike magnetism, disappeared again in the course of a few minutes, and resembled an electrical, therefore, more than a magnetic, charge. All bodies conduct it, though not in an equal degree, and what is curious, glass and silk are amongst the most perfect conductors and paper one of the worst. A charge requires some time to be given, but this time never exceeds a few minutes. The power, of course, increases with the size of the crystal, but the ratio has not as yet been determined.

The distinction between the poles consists in one always producing a warm, and the other a cool aura; the cool causing a refreshing agreeable feeling, while the other gives rise to very disagreeable sensations.

The readiness with which the situation of the poles could be detected by those sensible to their influence was striking. Many of the patients could detect all the ores, even in the most complicated crystalline forms, with unerring accuracy, by their effects on them, as of course it is unnecessary to observe they could have no knowledge of crystallography.

By extending his experiments he soon discovered that the poles of a crystal give out light exactly as the magnet does. Miss Sturman described it as a tulip-formed flame, blue at the base, passing into perfect white at the top, with scattered rays or stripes of a reddish colour passing upwards from the blue towards the white. The flame scintillated and flickered, and threw on the support on which the crystal rested, for a space of about eighteen inches all around, a certain degree of brightness. Miss Reichel describes the flame similarly, but in addition she saw a peculiar star-like light in the interior of the crystal, which evidently resulted from reflection produced by the structure of the mineral. It may be necessary to remark, that in order to observe these phenomena, the room must be perfectly dark, and the crystal very large, not less at least than *eight inches thick and proportionately long*. Smaller crystals will, however, answer with exceedingly sensitive persons.

The curious results produced on cataleptic patients which

we have already mentioned, excited some attention in the last century, and it was soon found that similar results could be produced without a magnet by the hand alone. It was impossible, from the then state of physical science, to shew the connexion between these phenomena and the ordinary physical ones of the magnet, and the subject was therefore passed over by philosophers, and gradually grew into disrepute, principally from the use made of it by mountebanks, and from the unsuitable name, *animal magnetism*, which it received. From the similarity of some of the phenomena observed by Reichenbach with those described by the elder magnetizers, he was led to think they might be results of the same cause.

As a magnet affects the human body, he thought that the magnetism of the earth cannot be without some influence of a similar kind; and in this he was not mistaken, for he found that of all positions in which a nervous invalid can lie or sit the best is in the magnetic meridian, with the head towards the north; the opposite direction is not quite so good, but the worst possible is at right angles to the magnetic meridian, with the head towards the west. He found that patients placed in the first position slept better at night, suffered less from headaches, and in general found themselves much better; while with the head towards the west, the same patients suffered greatly, their pulse increased in frequency, hectic fever often resulted, and catalepsy was sometimes occasioned; but the moment the patient was restored to the first position, all these symptoms ceased, and were in general replaced by an agreeable feeling of well-being. In some of the cases which were tried the most extraordinary effects were produced on the patient by this change of position, and he hence concluded that the various and contradictory effects which have been attributed to the application of electricity and magnetism to the cure of diseases have arisen from the neglect of the influence exerted by the magnetism of the earth on the patients; and to the same cause he also attributes the little success which has hitherto attended the treatment of nervous diseases.

In extending his experiments he found that soft iron, which loses its magnetism when removed from the inductive power of a magnet, does not lose the power of acting on the nerves, and he hence concludes that magnetism, properly so called, is perfectly distinct from this new power, as we have already seen in other instances when speaking of the crystal. We have also mentioned that bodies placed in contact with a crystal or magnet, such as water, &c., became possessed

of the same power of affecting the nerves as those bodies, and could be distinguished from portions of the same substances not magnetized. But we have now to learn that the same properties can be communicated to the human body, or in other words, that a man rubbed or in mere contact with a magnet or crystal is capable of producing the same effect on the nerves as those bodies; nay, more, that a man has these properties even when he has not touched a magnet or crystal; in fact, that we are a source of this peculiar power ourselves. It is unnecessary to give here the mode in which he arrived at this remarkable conclusion, as the experiments are all similar to those made with the magnet and crystal, a man being merely substituted for these latter. Like them the hand produces an aura, attracts the limbs of cataleptic patients, and communicates a charge to other bodies which, as in the case of the magnet and crystal, disappears again in a short time and is capable of passing through all bodies, is little influenced by the magnetism of the earth, and, like them, is polar, the principle axis being across the body, the ends of the fingers being the poles. The head and genitals very likely form secondary poles.

But the most extraordinary part of the whole investigation is that the *tops of the fingers of healthy men continually give off tufts of light just as the poles of crystals, while those of women give off none, or at most merely appear slightly luminous !!!*

The patients who were able to observe these phenomena described the flame as being from one to four inches long, according as they were more or less sensitive, and of an extremely beautiful appearance.

Morichini and Mrs. Somerville's statements that needles are rendered magnetic by the light of the sun, naturally led Reichenbach to suspect that his new power might also exist in the solar rays, and from an immense number of experiments he soon found such to be the case.

He observed that all bodies exposed to the sunshine soon became possessed of the properties which he had detected in the crystal, the magnet, and the human body, and that like those bodies they were capable of giving out light for some time after in the dark(a). This very curious result is, at least,

(a) These results as indeed all his experiments, agree in a most remarkable manner, with the curious discovery made by Moser, a couple of years ago, that all bodies give out what he calls latent light. The explanation given by Fizeau Waidell is absurd.

analogous to the property which some bodies possess of becoming phosphorescent in the dark after they have been exposed to the sun's rays for some time. Crystals, magnets, and animals, which possess this power *per se*, have it very much increased by exposure to the sun, and this to such a degree that persons who had been exposed to sun light for some time, powerfully affected patients when they approached them, and in many cases even produced disagreeable sensations by their mere presence in the room. One of his experiments is so curious, that we shall give it here :—To a piece of thick copper wire about thirty feet long, he fastened a piece of sheet copper about nine inches square. The end of this wire was placed in the patient's hand and the plate exposed to the direct rays of the sun outside the window ; this was scarcely done, when an exclamation of intense pleasure was heard from the patient ; she instantly felt the peculiar sensation of warmth which gradually spread from her arm to her head. But in addition to this, she described another and hitherto totally unknown sensation, namely a feeling of extreme well-being, as the patient said, similar to the sensation produced by a gentle May breeze. It flowed from the end of the wire to the arm, and spread itself over the whole body, producing a sensation of coolness ; the patient feeling at the same time strengthened and refreshed. In some of his experiments Reichenbach substituted various bodies and among them *a man* for the plate of copper, and still obtained the same results !!

The next question which presented itself to him was, whether there was any difference between the different rays of the solar spectrum in their power of producing the effects just mentioned ? From his experiments on this point, he has come to the conclusion that the rays which produce the agreeable refreshing feeling of well-being which spreads over the whole body are the green, and still more the yellow, where experiment shews the greatest illuminating power to be ; from this point it gradually diminishes at both sides, and completely ceases at the boundaries of the green and blue on one side, and the yellow and red on the other ; while the peculiar luke-warm feeling which crystals produce had its focus in the red, or rather in the space beyond it. A wire with a small plate of metal attached to the end of it, and exposed to the red rays and the space beyond it, while the other end was placed in the patient's hand, although fifteen yards long, produced a feeling not alone of warmth but of decided heat—that is, in the part where the greatest heating power of the spec-

trum exists. The violet, and the space beyond it, on the other hand, produced the disagreeable feeling which we have already described as sometimes resulting from the action of the magnet; and it is to this part of the spectrum, Morichini and Mrs. Somerville attribute the power of rendering needles magnetic, and where, as we know, the greatest chemical action takes place.

The fact of this power residing in the rays of the sun naturally led him to suspect its presence in the light of the moon also, although it had no heating power; and this he found to be the case. The effect produced by the sun's rays was, however, much more pleasant than that from the lunar rays, which acted much more violently, and even the conducting wire attached to a plate exposed to the moonshine strongly attracted the hand of the patient, the hand being, as it were, solicited by the wire with a force apparently stronger than that of the large magnet already mentioned. Hence Reichenbach considers that the cause why lunacy is affected by the phases of the moon depends on this power(a).

The next source of this power which he discovered, is heat; thus he observed, that a plate of copper or iron placed in contact with a hot body, or receiving the heat radiated by one, gave rise to a feeling of heat in the hand which spread through the upper part of the body. The wire, let it be observed, connected with the metal plate was, in general, fifteen yards long, and could not, therefore, have conducted sufficient heat to affect the hand. Cold bodies, such as ice, had the opposite effect, and one similar to that caused by the yellow rays of the spectrum; the sensation spreading gradually through the breast, back, and finally over the whole body. The end of such a wire gave out light visible in the dark, when placed in connexion with a hot body.

Friction is another source of this power; and two bodies rubbed together in the dark give out the peculiar light already so often described. There were slight differences observed in the appearance of the light given out by the friction of bodies, which depended on their nature; but we have not space to describe the peculiar appearances presented by each substance tried; one very curious experiment we cannot, how-

(a) We need scarcely inform our readers that here the learned Baron imitates the conduct of the Royal Secretary in regard to the notable question of *the fish*: the experience of all who have studied mental disease being unanimously against the existence of any appreciable lunar influence in these affections.

ever, refrain from giving :—He took a small, narrow handsaw, and sawed a piece of wood with it in the dark ; the saw-dust did not appear to yield any light, but the part of the wood immediately acted upon became in a short time as if red hot, while flames darted from each tooth of the saw. Reichenbach, who is one of the least sensitive persons, could, in many instances, see the light produced by the friction of two bodies himself, and we are all familiar with one case—the rubbing together of two pieces of lump-sugar. Electricity could not be the cause of the light observed in any of the experiments which he made, as it would be developed in too small quantities to produce such effects, and, besides, the light was observed in many cases where electricity unquestionably could not give rise to the phenomena.

Artificial light, such as that of a candle, possesses the same properties as sunlight, producing a sensation of coldness, &c., &c. ; hence the reason why nervous people get chilly in Catholic churches^(a) and other places where an immense number of lights are burned.

We shall now turn to one of the greatest sources of this peculiar power—chemical action. We cannot describe his experiments minutely, and indeed it would be unnecessary, as they can be very easily repeated by any person, by merely substituting for the sun or heat, as in the last cases, some vessel containing a chemical compound in a state of decomposition, &c. From the experiments on this head he has come to the conclusion, that in every case of chemical action, even where it consists in nothing more than the combination of water of crystallization with a salt or mere solution of a body in some solvent, this power is set free.

In this case, also, he was able to detect the evolution of flames from the end of the wire connected with the vessel in which the chemical action took place ; so long as the action continued, flames were given off, but they ceased when it discontinued. Some differences were observed between the appearances of the flames produced by the different substances tried ; thus, when sulphuric acid was poured into water, red flames were formed in the glass which rested on the fluid in it ; but when the mixture was stirred, they increased to such a degree that they extended three or four inches over the glass ; even the glass rod with which the mixture was stirred was covered on its upper end with tufts of light.

When a pan of glowing coals was brought near Miss Reichel, she felt a sensation of coldness, even when within a

(a) Which, on the Continent, are generally *vast* buildings, with *massy walls* and *very small windows*. Need we wonder they are cold ?

yard of it; and, in fact, all burning bodies, notwithstanding the amount of actual heat produced, caused in sensitive persons a feeling of cold. And, what is extremely curious, Reichenbach found that the flames produced by the burning of sulphur and potassium, &c., caused the greatest sensation of coldness. It is extremely remarkable that light, in all cases, should produce a sensation of coldness on the nerves.

If we recollect how manifold are the circumstances under which chemical action takes place on the earth, we will be able to see what an inexhaustible source of this power it must be. In the animal body, there is a series of such changes continually going on; we eat food, it is digested in the stomach, and converted into blood, which is again further changed into muscle, fat, &c., and these in turn are again decomposed to yield fuel for animal heat and motive power. This continual chemical action is, therefore, the generator of the peculiar force which we find developed in man as in the magnet and crystal. But not only does the chemical action going on in the living body generate this power, but the decomposition which ensues immediately after death is also an abundant source of it. Reichenbach, on going into churchyards on dark nights with some of his patients, discovered that graves were always covered with a lurid phosphorescent glow about six or eight inches high; and, in one case, Miss Reichel saw it four feet in height in a graveyard in Vienna, where a large number of persons were daily buried; when she walked through this graveyard, the light reached up to her neck, and the whole place appeared covered with dense misty luminous fog. This, the Baron conceives, explains in a very satisfactory manner the appearance of light and ghosts, &c., which have been from time to time observed over graves.

The next source of this power which he discovered was electricity, statical electricity, or that produced by friction—but both positive and negative kinds are capable of producing all the results which we have already so often described as being produced by the crystal, magnet, &c. Electrical induction gives rise to the same development of power. Galvanism is another source of it: the positive pole, when the circuit is not closed, giving a warm aura, and the negative a cool one. Electrical shocks, either from a Leyden jar or a galvanic battery, are incapable of setting this force in motion on account of the too great rapidity with which they pass through bodies. It is worthy of remark, that a wire connected with the conductor of a machine, need not be insulated in order to conduct this power, or exhibit the luminous appearance on its extremity, this taking place as well after the body has lost all trace of an elec-

trical charge as before. This shews that, though this power is evolved along with electricity, it is perfectly distinct from it.

Having thus discovered ten sources of this power, he was finally led to the detection of one still more general,—namely, in all the bodies that surround us—in fact the whole universe.

Every one is aware that there is a large number of persons upon whom certain substances have a certain peculiar effect, generally of a disagreeable kind, which sometimes appears to be absurd and ridiculous, and is often attributed to eccentricity; thus there are some who cannot bear to touch fur, others who do not like to see feathers; nay some who cannot bear the look of butter. The invariable nature of this feeling, and the similarity of circumstances attending its existence among the most different races, and in the most distant countries, led Reichenbach to examine it closer, and he found that these antipathies occurred for the most part among persons apparently healthy, but more or less sensitive, and that they increase in degree according as persons suffer from nervousness, &c.; and that hence there was evidently some connexion between these sensations and the effects which he had in so many instances found to attend the action of magnetic crystals, and on similar persons.

We have already seen that, in certain cases, the action of the crystal was attended by a disagreeable feeling which sometimes produced painful spasmodic affections of the limbs; and that this property could be communicated to various bodies, though in different degrees; and that it is never totally absent from bodies which form perfect crystals. On this subject we have, however, already said enough; and it only remains to say a few words on the sensation of apparent *difference of temperature*, the *disagreeable feeling, as it were of disgust*, and the apparent *mechanical agitation* of darting pains through the body, sometimes produced by most dissimilar substances.

Some of these sensations were felt by healthy persons, but highly sensitive individuals felt them all more or less strongly, according to the nature and extent of their disease.

On making a number of experiments on the most different substances, he arrived at the conclusion that all amorphous bodies which do not possess the peculiar power resident in crystals, possess, in different degrees, according to the nature of the body, and with a great degree of constancy, the property of giving rise to disagreeable sensations, sometimes accompanied by heat, and sometimes by a feeling of coolness. In the crystal, we had a power depending on the state of aggregation, or *form*; while, in the case before us, the *nature* of the substance is the determining cause of some dynamical effect of another kind.

In order to examine the nature of this new phenomenon, he tried the effect of more than six hundred different substances, principally chemical preparations, on different persons. The result was the law, that all bodies arranged themselves in a series agreeing with that expressing their electro-chemical relations, the highest in electro-chemical properties giving rise to the greatest effects. He was not at first able to determine whether there was any difference between electro-negative and electro-positive bodies, but we shall see hereafter that such a distinction was finally established. At the head of the list stand oxygen, sulphur, sulphuric acid, potassium, phosphorus, iodine, &c., while at the end of the series are found palladium, platinum, silver, copper, iron, gold, water, &c. These latter were found almost indifferent in the active or sensitive individual—an indifference, however, which it may be well to remark was only a difference in action from the bodies at the head of the list, as we shall hereafter see. With few exceptions of some rare metals, which were probably impure, all the highly electro-polar bodies arranged themselves at one end, and the indifferent at the other. It is well to remark that when the same substance was given at different times to the patients, they always assigned it the same position in the series; thus affording a striking proof of the accuracy of the whole matter; for it cannot be supposed that a girl unacquainted with chemistry could discover and assign its proper place to each substance of a series containing upwards of six hundred different bodies. Besides, many of these substances were so similar in appearance that even the practised eye of a chemist could not distinguish them. All the experiments were made on patients in perfect possession of their senses, they were, however, controlled by a repetition of them with patients in a state of catalepsy. When any substance was placed in the motionless hand of a patient it acted on it; the indifferent bodies, provided they were not crystallized, did not produce any violent effects; but when the bodies at the head of the scale, such as sulphur, iodine, or the minerals, heavy spar, fluor-spar, pyrites, gypsum, &c. which also possess very high chemical relations, were employed, the hand was seized with violent cramps, and was thrown up in a violent manner, as the leg of a frog is by a current of galvanism, and in this unnatural position it remained, as if petrefied. He thus found that there was no difference in the order assigned to the different bodies tried by patients in full possession of their senses, and that derived from experiments made with cataleptic patients; while, on the other hand, the action was much more energetic in the latter cases.

He also found that some bodies acted before they came in

contact with the hand, and this action continued as long as the substance was over or near the hand. Among the bodies which acted in this manner were sulphur, lead-glance, fluor-spar, rock-salt, cinnabar, gypsum, arsenic, sal-ammoniac, ferrocyanide of potassium, cobalt, antimony, telluric acid, wolfram, apatite, celestine, native carbonate of lead, cyanide of potassium, &c. These substances placed near the hand of a patient in a cataleptic state caused it to be convulsively shaken, and this effect often brought on violent spasms; similar effects were observed with patients in full possession of their senses.

The preceding results were fully verified by experiments made with a Miss Maix. She found most bodies placed in her hand either warm or cold, as we have already mentioned, but with this sensation, which she felt only in the part of the hand in actual contact with the substances, she sometimes felt another in the form of a cool aura (like that produced by an electrified conductor), which was given off by many bodies which she tried; among which sulphur appeared to her to act in the strongest manner. When a piece of this substance was laid in her hand, she felt, in addition to the sensation of warmth at the part of her hand in contact with it, a sensation of coolness like that produced by a cool breeze, which spread itself over the entire hand, and finally extended itself through her clothes over the entire body. On placing the sulphur in a common drinking glass, the effect appeared to take place through the glass; but the aura was in this case much pleasanter than when it flowed directly from the sulphur. Absolute contact was not, however, necessary, as even at the distance of seven yards it continued to affect the patient!

A similar experiment was made with sulphuric acid which, unlike sulphur, produced a sensation of cold where the vessel was in contact with the hand, but gave similar results; in fact the sensations were the same from a vast variety of substances, differing only in intensity. A great number of persons were susceptible of this sensation who were in perfect health, among whom may be mentioned Kotschy, the traveller, a man of powerful constitution.

Reichenbach tried some substances which produced neither a sensation of warmth nor cold by contact of the hand with them, such as paraffin and cane sugar; but here also a cool aura was felt, and with the paraffin even at the distance of two yards. Still air enclosed in a vessel produced similar results, and, indeed, oxygen gas appears to be the most active substance known in producing these effects.

All bodies do not, however, give off a cool agreeable aura; for, on further examination, Reichenbach found that some sub-

stances produce the opposite effect, no matter what was the sensation felt at the point of contact ; thus gold was in every case found to produce a warm aura, and, in general, the metals acted in a similar manner. Thus, one individual, a Mr. Studer, a perfectly healthy man, without being in actual contact with them, found that sulphur, pyrites, gypsum, tellurium, chloride of lime, persulphate of iron, sulphuret of potassium, oxalate of potass, rock crystal (not in perfect crystals), sugar, &c., gave out a cool aura at various distances from him ; while gold, silver, copper, tin, lead, zinc, potassium, and solution of caustic potash, always gave out a warm aura. Similar results were obtained by Mr. Schuh, a private lecturer on physics in Vienna, and so great was the disagreeable feeling produced by the warm aura on him, that he could not remain for a long time opposite a large mirror without getting a headache, pains in the chest, or becoming completely stupified. These results were produced much more rapidly when he stood near a mirror with his back to it.

In order to verify these results Reichenbach made a series of experiments with Miss Reichel, first trying the action of the large horse-shoe magnet already mentioned ; this she found at the distance of fifty-four yards to affect her so strongly, that she was of opinion it should be removed to twice the distance, in order to enable her to bear its influence. Her sensibility had, however, much increased since the previous experiment had been made with her, owing to her having menstruated. On trying a piece of sulphur, about half a square foot in area, which acted on Miss Maix at the distance of seven yards, he was astonished that it still produced a cool aura at the distance of about 37 yards. A piece of copper, about four square feet in size, gave a warm one at 28 yards ; an iron plate, six square feet in size, likewise gave a warm aura at the distance of 44 yards. A number of other substances, such as brass instruments, porcelain vessels, glass, variegated paper, linen cloth, lustres from the ceiling, trees, approaching men, horses, dogs, cats, ponds of water, particularly when the sun shone on them, in fact, every thing that could be found, yielded either a cool or warm aura, sometimes so strong as to awaken attention, and at others so slight that the patient did not attend to them, from being habituated to them.

This power, like that of the crystal, is capable of being communicated by one body to another ; that is, bodies not possessing it to any degree are capable of receiving a charge from another by mere contact, and even without contact, as it were, by induction ; thus the hand placed on or near a piece of sulphur, possesses the property of giving out a cool aura, in-

dependent of the power already residing in the hand ; and any other object substituted for the hand would receive a similar charge by contact with sulphur, gold, &c. This power, which is thus found to emanate from all amorphous bodies, is capable of passing through every substance we are acquainted with.

There now remained for him to test only the appearance of light, and, from a very numerous series of experiments, he has come to the remarkable conclusion that all metals, and, indeed, all simple substances without crystalline structure, appear to give out light which in sufficient darkness is visible to the eyes of sensitive persons ; and that compound substances also give out light but of a much weaker kind than the simple bodies, and the more compact the compound the less it gives out. Miss Reichel says she saw most metals evolve a red light, and appear almost glowing ; others white, and some yellow. Over the whole of them there floated a fine cloud-like flame, different for each, and which undulated from side to side. This flame had a peculiar colour for each metal, and could be moved about by a current of air, by the breath, or by the motion of the hand. *Compound substances gave out flames only when crystallized ; otherwise they were merely surrounded by a shining vapour, or appeared somewhat luminous.* In general the flames seen in these cases resembled very much those evolved by the magnet crystal, and were regarded by the patients only as minor degrees of the same. Miss Reichel had, from her earliest infancy, observed bodies to give out light, but had never mentioned it to any person.

Like all the bodies on the earth, the heavens, when the stars shine, act on the nerves—the fixed stars generally giving a cool aura, and the planets a warm one. We thus see that there is in nature a universal power which appears to pervade all bodies, and in some exists in such a state of concentration as to produce visible effects.

The power which occurs in the crystal magnet and human body exists in them in two states, producing the one a cool, the other a warm aura, while in most of the other sources we find it developed only in one state, producing either a warm or a cool aura.

Having now presented our readers with a sufficient abstract of Baron Von Reichenbach's experiments to enable them to comprehend their nature, and to repeat them if they feel so disposed, we must defer to a future number some experiments of a still more curious description, as well as the conclusions which Reichenbach has drawn from the whole.

Without entering at present into a critique on many points, either actually false, or at least very questionable, we would only remark, that the evidence afforded by the *mere feelings* of a few individuals, and those chiefly hysterical girls, to an entirely *new class of facts*, is too small in amount to lead in any well regulated mind to more than mere inquiry into the truth of what is alleged. The experiment with the daguerreotype is the only one that admits of actual demonstration, and its repetition is very easy. In conclusion, we would refer our readers to a most interesting series of observations on the evolution of light from the human body, lately published by Sir Henry Marsh.

A Practical Treatise on Inflammation, Ulceration, and Induration of the Neck of the Uterus, &c. By JAMES HENRY BENNETT, M. D., &c. &c.

No doubt the range of uterine pathology has been much widened by the employment of the speculum, and our knowledge rendered more accurate, though not without some attendant mischief, which we shall notice by-and-by.

Its greatest benefit, we think, has been in the information obtained by it in erosions and ulcerations of the cervix. These can now be easily recognized, and treated far more satisfactorily than heretofore. Moreover, they constitute a very important class of diseases, far more frequent than is suspected, and by proper treatment more manageable than the results of the older methods of cure would lead us to conclude.

This being our experience, we shall make no apology for laying before our readers a tolerably full notice of Dr. Bennett's able work, which is the more valuable as giving not only his own observations, but those of many eminent Parisian practitioners.

Dr. Bennett divides his work into four parts, viz. : Inflammation, ulceration, and induration in virgins, or women who have not borne children ; in those who are pregnant, or have borne children ; syphilitic ulceration of the cervix, and cancerous ulceration ; with the appropriate treatment of each variety.

After a sketch of the characteristics of the cervix uteri, the author states, and we believe truly, that inflammation and ulceration are comparatively rare in virgins ; "and that when it does exist, either as a complication of general metritis or as a local affection, it nearly always gives way spontaneously."

In married females, from the irritation to which the parts are constantly exposed, the inflammation is aggravated, and is very liable to occasion more or less destruction of surface. "When inflammation attacks the cervix uteri in women who have not conceived it is nearly always confined to the mucous membrane, the deeper structures seldom becoming implicated, except in cases of general metritis."—p. 9. In the earliest stage we have ever seen it, the cervix presented a bruised appearance, slightly swollen, puffy, and of a dull red colour. At a somewhat more advanced period, we find on this bruised surface a number of small irregular erosions, as if the mucous membrane had been removed by the point of a penknife; these gradually coalesce, and then we find an erosion, or very superficial ulceration, surrounding, more or less completely, the os uteri. This state of the parts may continue for a long time. In many cases, doubtless, the inflammation subsides spontaneously, and the erosion heals; but in others the destructive process extends, and the ulcer becomes deeper and fully deserving of the name.

It is very remarkable that the symptoms are not always in proportion to the amount of mischief. We have seen as much distress with slight erosion as with deep ulceration:

"The patient," as Dr. Bennett observes, "complains of pains in the loins, and sometimes of deeply-seated pain in the hypogastric region, behind the pubis, and—a most important symptom—intercourse is painful. This fact alone may lead us to suspect the existence of disease. Sometimes there is a vivid perception of heat at the superior portion of the vagina. There is no sensation of weight, heaviness, or bearing down, except in extreme cases, in which the malady has been long neglected."—p. 9.

The amount of mucous or muco-purulent discharge varies very much. In some cases there is but little, in others very much; and in one case of erosion which came under our notice it was discoloured, and had an offensive smell.

An examination with the finger will reveal the congested state of the cervix and its increase of heat; but it requires a very practised finger to detect an erosion, or even a superficial ulceration, notwithstanding what pathologists have stated of its giving a sensation of velvet to the finger. To meet this difficulty, Dr. Bennett states that he

"Has ascertained that ulceration of the mucous surface, however limited, almost invariably gives rise to slight induration of the tissue underneath, which induration is very perceptible to the touch. In the form of ulceration (the slighter) which we are now examining, the induration to which I allude is quite superficial, not extending to the central

tissue of the uterine neck. It is merely a thickening of the ulcerated mucous membrane, and of the subcellular tissue, most perceptible at the circumference of the ulceration; yet it is easily appreciated by the finger of one who is accustomed to look for it, and to him it is a valuable symptom. This superficial induration is generally felt most distinctly at the edge of the uterine lips, where the mucous membrane passes into the cavity of the neck, and where, consequently, two mucous thicknesses are approximated by the folding of the membrane."—p. 11.

We quite agree with Dr. Bennett that this is not an infallible guide, though, when present, it is a very useful one. In these cases we have no resource so sure and so safe as the speculum.

"On examination by the speculum, a certain quantity of mucopurulent matter is always found at the superior region of the vagina, even where the lining membrane of that region is not inflamed. The cervix uteri is generally increased in size, but seldom so much so as not to be admitted into the cavity of an ordinary sized conical speculum. The tumefaction is mostly greatest on the upper lip, which is the larger one of the two in the healthy condition. It is, therefore, often necessary, in order to expose the orifice of the os, to raise the speculum towards the pelvis, and by thus slightly pressing with the superior edge of the instrument on the anterior lip to push it back, and allow the inferior one to enter its cavity. Even if the cervix uteri is too large to be admitted at once into the speculum, by thus alternately depressing its different parts the entire organ may successively be brought fairly into view. When inflamed the tumefied cervix presents a more or less intense red, glistening hue, instead of the pale, dull, whitish colour which is natural to it. When the mucous membrane is ulcerated, the glossy appearance of the membranous surface is lost, and a number of vascular granulations, of a vivid red hue, are seen covering the ulcerated region, after the mucus has been wiped away with a pledget of lint—a necessary precaution. Sometimes the ulcerated surface appears raised above the adjacent level, whilst occasionally, on the contrary, it appears depressed. When the ulceration is at the entrance of the os uteri it is often difficult to discover, unless the uterine lips be slightly separated. There is generally a heap of semi-transparent mucus occupying the cavity of the os uteri. The ulceration may be so superficial and slight as to be scarcely perceptible, or extend over a considerable portion of the cervix. In many cases the pressure of the edge of the speculum, or even of the pledget with which the mucus is wiped off, occasions a slight oozing of blood from the abraded or ulcerated surface."—p. 12.

With regard to the treatment of this form of disease, Dr. Bennett lays it down as an axiom that cauterization is the basis of all treatment, and upon the whole we agree with him, although there are some cases where the cervix is much swollen and inflamed, in which previous scarification and leeches greatly facilitate the cure. The principal caustics re-

commended by the author are the nitrate of silver, and the acid-nitrate of mercury; the former may be applied every fourth or fifth day; the latter once a week.

"In case cauterization is resorted to, whatever be the agent, the blood and mucus which covers the cervix must be wiped off before the caustic is applied, otherwise the greater part of its power is lost in coagulating those fluids." "The solid nitrate of silver, fixed in a long porte-caustic, must be drawn two, three, or four times over the ulcerated surface, according to the effect wished to be obtained. In order to apply a fluid caustic, the following plan should be resorted to: a small thin stick, about a foot in length, having been chosen, is formed into a brush, by inserting between its divided extremities a little wool, lint, or old linen, which is then fastened by a few turns of thread."—p. 149.

A much better plan is a small roll of lint, about as thin as a quill, and an inch long, held in a pair of long dressing forceps.

"The brush" or lint, "having been introduced into the acid, should be pressed against the rim of the bottle, in order that it may be merely moistened with the caustic, and then drawn over the ulcerated surface."

The superabundant acid, if there be any, may be removed by another piece of lint, or washed off by water.

Potassa fusa is also used, in Paris, especially by M. Boys de Lowry, and the actual cautery by M. Jobert; but both are rather too severe for this form of disease. Dr. Bennett has omitted one which we have found far more useful than any other, in the slighter forms of ulceration, viz: the caustic iodine, such as Lugol recommends.

After the cauterization, Dr. Bennett advises emollient vaginal injections in the slighter cases, and astringent ones of acetate of lead, sulphate of zinc, or alum, when the inflammation is more extensive, with appropriate general treatment.

Syphilitic ulcerations of the cervix Dr. Bennett considers to be much more frequent than has been supposed. He divides them into two classes: the true Hunterian chancre, and others which, although wanting the characters of true chancre, are considered to be venereal.

The former is extremely rare: M. Cullerier only saw three cases of it during his whole career; M. Gibert, three; Dr. Bennett only two; whilst the opinions of Duparque and Emery confirm this statement. When it does exist it presents the usual characters:

"The ulceration is deeply excavated, and its surface is covered by a yellow and greyish film; the edges are elevated, irregular, and indurated. The size of the chancre or chancres, for there may be several, varies. Those which I have seen were small; one was not as large as a fourpenny piece, the other was still smaller."—p. 99.

Of course this species of ulcer can be better appreciated by the touch than any other, but its character will be alone ascertained by the speculum. It should be noticed that the symptoms of a true chancre at an early period are often obscure, depending upon the amount of inflammation and irritation. The treatment consists of the usual antisyphilitic remedies generally, and locally by cauterization.

The granular erosions described by Gibert and Ricord, and which have been considered as syphilitic, Dr. Bennett considers as nearly all of an inflammatory nature; some few may be primarily, and some others, perhaps, secondarily syphilitic, but all are curable by the same means as the inflammatory.

The chapter on malignant ulceration is, we think, treated too concisely, nor does Dr. Bennett's experience correspond with our own; we have not found corroding ulcer so rare as he states, and we are satisfied that many such cases are set down as cancer on superficial examination. The distinction is the more important, because, though as yet we know of no means of curing either disease, we are able to arrest the progress of corroding ulcer for years, by the application from time to time of strong nitric acid. We have a lady under our care for the last two years, and at the time we first saw her, she appeared to be moribund, blanched, exhausted, and dropsical, suffering constant draining, and severe pain. The nitric acid was applied and the hæmorrhage ceased; the pain disappeared, and she now sits up and walks abroad, although the ulcer is exactly the size it was at first. We have also partially succeeded in retarding the progress of cancerous ulceration by the same means.

We had intended noticing more at length the chapter on the treatment of the several forms of induration and ulceration by Vienna Paste, the actual cautery, &c., but our limits forbid. We must first say, however, that in our experience, much the same results, with less mischief, may be obtained by the use of the strong acids.

After the notice we have given, it is unnecessary to express our high opinion of the value of Dr. Bennett's work. It is carefully written, and is evidently the production of a practical physician, who has been long familiar with disease. At the same time, we honestly confess that we are somewhat less ardent admirers of such practice in these diseases than he appears to be.

Since the above was written, we are happy to learn that Dr. Bennett has been appointed Physician to the London Western General Dispensary.

Organon; ou l'Art de Guérir. Traduit du Dr. S. Hahnemann, par ERNESTE GEORGE DE BRUNNOW. Paris, 1832.

The same, translated from the German. By C. H. DURIENT, Esq., with Notes by S. Stratten, M.D. Dublin, 1833.

Exposition de la Doctrine medicale Homœopathique, &c. &c. 5me edit. Par A. L. JOURDAN. Paris, 1834.

Leçons de Med. Homœopathique. Par le Dr. L. SIMON. Paris, 1835.

Practice of Homœopathy. By P. CURRIE, M.D., Lon. 1838.

Nouveau Manuel de Med. homœopathique. Par G. JAHR. Paris, 1841.

Homœopathy Unmasked; being an Exposure of its principal Absurdities and Contradictions: with an Estimate of its recorded Cures. By A. WOOD, M.D., Edinburgh, 1844.

An Introduction to the Study of Homœopathy. Edited by J. J. DRYSDALE, M.D., and J. RUTHERFORD RUSSELL, M.D., London, 1845.

An Inquiry into the homœopathic Practice of Medicine. By WILLIAM HENDERSON, M.D., London, 1845.

A concise View of the System of Homœopathy, and Refutation of the Objections commonly brought against it. Published by the Irish Homœopathic Society. Dublin, 1845.

The British Journal of Homœopathy. Edited by J. J. DRYSDALE, M.D.; J. R. RUSSELL, M.D., and FRANCIS BLACK, M.D. 1843-44-45.

Homœopathy, Allopathy, and Young Physic. By J. FORBES, M.D., F.R.S. London, 1846.

“MODERN ATHENS,” as her citizens love to designate the northern metropolis, seems for some years past to have become deeply imbued with the spirit which was so remarkably prevalent in the glorious city of Minerva of old, when that justly-venerated shrine of all that elevates and ennobles human nature was rapidly sinking to a premature decay beneath the galling yoke of the stranger. “The Athenians,” says St. Paul, “spent their time in nothing else but either to tell or to hear some new thing.” We know of no other theory that will account for the fact, that nearly all the strolling preachers of mesmerism, phrenology, hydropathy, homœopathy, and the other novelties which the fertile brains of German book-worms have poured upon the world, have their home in “Auld

Reekie." We have hitherto abstained from noticing any of the numerous systems of quackery which we have seen enjoying an ephemeral popularity around us, feeling confident that in all matters of an ordinary kind, "magna est veritas et prevalebit." Homœopathy, however, may be said to stand on different ground, its parent being one of our own craft, and a man of acknowledged learning. We believe, notwithstanding, that it is the dictate of common sense, that when new doctrines inconceivably absurd and mutually contradictory are forced on our attention, not as propositions possibly or even probably true, but as constituting "a universal and infallible law of Nature," we should either turn from them with contempt, or pass them by in dignified silence, since the world is so full of quack systems that no man's life would be long enough to read long controversies about each of them. When, however, we find these doctrines spreading extensively, and embraced by such men as Henderson, Drysdale, and Russell, who are reputed intellectual, and whom we know to be strictly upright, it becomes us, as candid inquirers after truth, to reconsider our decision, and to satisfy ourselves that no preconceived opinions, party prejudices, or misrepresentation, have had any influence in establishing our previous conclusion. It is in this frame of mind that we sat down to study carefully the works enumerated at the head of this article, and we now proceed to furnish our readers with the results of our investigation.

The leading peculiarities of the doctrines of Hahnemann (a) and his followers will be found enunciated in the following propositions, which may be taken as a definition of homœopathy, or summary of the doctrines of Hahnemann and his followers:

1. All chronic diseases are either proximately or remotely caused by one or more of the three "immaterial miasms," itch, syphilis, and psycosis, particularly the first.—*Organon*, § 73, *et sequent.* 201, &c.

2. The curative efforts of Nature are limited to the substitution for the original disease of itch, measles, or small-pox, but in her attempts at cure Nature very rarely succeeds.—*Organon*, § 45, and "*Concise View*," p. 93, &c.

3. The totality of the external symptoms constitute all that the physician needs to know or can know of disease; the internal changes, being "only guessed at" ought to be neglected, "as so many idle dreams and vain imaginings."—*Organon*, §§ x., xiv. and lxvi.

(a) "With regard to Hahnemann's works, which shall be translated by the Society, it ought to be most emphatically stated, that they *have been, are, and ever will be*, the true fountain and origin of Homœopathy."—*Address of the Irish Homœopathic Society.*

4. Any given disease may be artificially produced by the exhibition of a single dose of a single medicine to a person in perfect health.—*Organon*, *passim*.

5. Diseases are infinite, no two derangements of the œconomy being identical; hence the classification of diseases is an absurdity.—*Organon*, § xxiv. lxxiv.

6. There is no such thing as a merely local disease, hence the treatment of all diseases must be exclusively constitutional.—*Organon*, § clxxii.

7. "A disease," *whether moral or physical*, "is cured by such medicinal agents as have the power of developing a similar disorder in a state of health" (*Concise View*, &c., p. 17), or, as Hahnemann expresses it "*similia similibus curantur*."

8. The effects of medicines, as ascertained by experimenting on the healthy, and especially on the physician's own body, are alone worthy of any confidence in practice.—*Organon*, §§ xvi., cxxxvii., cxxxix.

9. All plants, animals, and minerals, are possessed of medicinal qualities.—*Organon*, § celxvi., *note*.

10. No two medicines produce the same effects, or have the same curative influence.—*Organon*, §§ cxi., cxii.

11. More than one simple medicine must never be exhibited at a time.—*Organon*, §§ celxx., celxxii.

12. Two doses of any one medicine, appropriate to the case, must not be given in succession.—*Organon*, § celxvii.

13. Medicines, when administered for the purpose of curing a disease, must be given in doses many thousand, or, more frequently, many million times more minute than has hitherto been thought necessary.—*Organon*, § celxviii.

14. The inherent virtues of medicines are enormously developed by the process of rubbing and shaking, so that it is absolutely necessary to prescribe in the pharmacopœia the number of rubs and shakes to which each medicine is to be subjected.—*Organon*, § celxxviii., *note*.

15. The dose in which a medicine appropriate to the case is administered is of no importance whatever: one practitioner may give *many million times* as much as another without the slightest difference in the effects produced, and to reduce the dose of a medicine too low is an absolute impossibility.—*Organon*, § clxxxii., &c.

He who can swallow down and digest these fifteen propositions is a homœopathist and an orthodox disciple of Hahnemann; but before proceeding to examine more closely the principles of the "science," let us glance for a moment at the *Origin and Growth of Homœopathy*.

SAMUEL CHRISTIAN FREDERICK HAHNEMANN, the founder of homœopathy, was born at Meissen, in Saxony, in 1755. After studying medicine at Leipsic and Vienna, he for some time held the situation of librarian to a nobleman, and having taken his degree at the University of Erlangen, he soon ob-

tained, through the influence of his patron and his own reputation for learning, the somewhat sinecure post of district physician at Gommern. Here, enjoying abundance of leisure, he abandoned himself to his favourite study of chemistry, and was also employed in translating French, English, and Italian works, as well as in writing for various German journals. The effect of his closet application was soon made manifest in his abandoning medicine altogether, "because it afforded no great principle by which he could, in all cases, guide his course." Hahnemann now devoted himself, with redoubled ardour, "to chemistry and authorship;" and had he persevered in this course, he might, by following the natural bent of his mind, have attained to a rank probably little inferior to that of a Liebig or a Rose. His boldly speculative nature was, in fact, singularly well fitted for the prosecution of a science in which the wildest hypothesis and the most baseless theory might give useful incentives to investigation, whilst the errors of the intellect could at once be tested and corrected by well-devised and varied experiments; but in medicine as in political economy, the transactions of commercial life, and all sciences which have moral agents for their objects, premises can only be ascertained by a most careful appreciation of testimony, and by an impartial balance of probabilities; and the connexion of cause and effect, or of invariable sequence and consequence, is so difficult to be traced, that an *experimentum crucis* is an absolute impossibility, and the value of any alleged facts must always, in a great measure, be determined by the *cui bono* (in the classical sense of the phrase) of the narrator. Viewed in this light, Hahnemann was, from the nature of his studies, his predilections, and his modes of thought, the very last person likely to become a great practical physician. Unhappily, however, for himself and for the world, he again turned his attention to medicine, and under the guidance of his *idola specūs*, soon compelled, as he thought, all the phenomena of disease to become conformable to his notions of order and simplicity. His first work of a strictly medical character was on the treatment of the venereal disease. It appeared in 1789, under the following title, "*Unterricht für Wund-aerzte ub. d. vener. Krankheiten*," Leipzig. This book exhibits a curious mingling up of the Brunonian hypotheses with the notions of the Iatro-chemists. Brown, as most of our readers are aware, regarded diseases as consisting but of two classes, sthenic and asthenic, and, discarding all the numerous drugs of the pharmacopœia, he employed but two medicines—alcohol, in all its varieties of colour and kind, and

opium. Hahnemann adopts the first of these hypotheses, but is too much enamoured of chemistry to give up his drugs, which he makes to play a very important part in the *laboratory* of the human organization. Syphilis, according to him, is but a state of atony, which for three or four weeks, he treats by the most powerful tonics. After the lapse of this period, having got the system into a state of excitation, he joins to these means the use of his soluble salt of mercury, so called from its supposed power of *rendering soluble the animal fluids*. Of this salt, the ammonia sub-nitrate of mercury ($\text{NH}_3 \cdot \text{NO}_3 + 2 \text{HgO}$, Kane), he asserts that eight grains are sufficient to cure ordinary cases of syphilis, twelve grs. only being required by the most inveterate. He pushes the administration of the remedy until incipient ptyalism, and attaches great importance to the degree of mercurial fever produced, a certain amount being necessary to the neutralization of the disease. Some time after the appearance of this essay, happening to be attacked with intermittent fever whilst experimenting on bark, he was led by this accidental circumstance to attach the most absurd importance to the idea of the enthusiast, Basil Valentine, that "like is to be expelled by like, and not by its contrary," and his knowledge of the medical literature of the period of Renaissance being sufficiently extensive to afford him abundance of loose analogies for any notion, however strange, he soon enunciated to the world, in a letter addressed to Professor Hufeland, and published in 1796, his grand discovery of "*similia similibus curantur*." His experiments on the effects of medicines on the healthy human body appeared in two vols. in 1805, under the title of "*Fragmenta de Viribus Medicamentorum positivis sive in Corpore humano Sano obviis*." This was followed, in 1806, by "*Medicine founded on Experience*," in which appears the first development of the system of homœopathy, and four years after was published the first edition of "*The Organon of the Healing Art*." "This immortal work," says a homœopathic writer, "one of the most remarkable productions of the human mind, has already gone through five editions, and has been translated into the French, English, Italian, Hungarian, Polish, Russian, Danish, Swedish, and lately also into the Spanish language."—*Concise View*, &c. p. 12. The last of the writings of Hahnemann, entitled "*The Chronic Diseases, their peculiar Nature, and homœopathic Treatment*" appeared in 1830, in four volumes. A second edition was published in 1835, in five vols. octavo, but it has not yet been translated into English.

Hahnemann, evidently, derived most of his notions

from the school of the alchemists and theosophists of the sixteenth century; but he was not satisfied with copying the theories of those enthusiasts, he imitated also their arrogance, and even exceeded them in the violence with which he denounced those who differed from him. Innumerable passages in his works remind us of his prototype, *Bombast de Hohenheim*; and sometimes in speaking of his contemporaries, he makes use of almost the very words of Paracelsus. This arrogance and insolent intolerance bore its usual fruit, for although novelties, when advocated with talent, and sanctioned by great names, are in general but too well received in medicine, and new theories of disease, and new modes of treatment, which have their origin within the magic circle of the Profession, are often, however wild or visionary, if not evidently false, a sure passport to fame, we seldom find any author, no matter what may be the subject on which he writes, escape the castigation of the critics, who sets out by proclaiming that he is the favoured emissary of heaven, and that all, beside himself, are but knaves and fools. We need not be surprised, then, that Hahnemann, after the publication of his works, soon found himself assailed by the most violent and unreasoning persecution. In this emergency he retired to Coethen until 1835, when he removed to Paris, where he died in 1843, at the advanced age of 89.

Since the death of its founder, homœopathy has made but little progress on the Continent, though it has advanced with the rapidity of all novelties of the kind in England and in America. In Austria, with the caprice characteristic of despotism, it was first denounced, and the subject forbidden to be discussed, and shortly after, through the influence of some high personages, received a grant for its support from the government. In Saxony the doctrines of Hahnemann are also countenanced by the state; in the general hospital at Copenhagen, and also at Stockholm, a ward is set apart for the purpose of experimenting on homœopathic practice. In Prussia the government has made regulations with respect to the filling of homœopathic prescriptions; but there is no hospital where the practice is followed, and no public emoluments bestowed on its professors. Bavaria is said to be on the point of endowing an hospital for homœopathic practice, but as yet nothing of the kind has been done. In France the system of Hahnemann has made but very few converts, and the numbers of its adherents are rapidly declining, whilst letters from different parts of America assure us that although homœopathy is certainly spread-

ing, the last German importation, viz., *Hydrophathy*, is there, as in England and Scotland, rapidly taking the lead; and there can be little doubt that, like Hahnemann's medicinal disease, it will strangle its predecessor, and then itself decently expire.

In Ireland, from the remotest ages, the professors of the healing art occupied the highest rank in society; and some relics of this ancient prestige are still preserved in the minds of the vulgar, who regard the physician as scarcely second to the priest. This notion, joined to the great natural acuteness of the people, their poverty, their extreme suspicion, and the slavish reverence for authority but too characteristic of the Celtic races, may in some measure account for the fact, that none of the almost innumerable systems of quackery which enjoy an ephemeral popularity on the other side of the Channel, can find any partisans amongst the lower and middle classes of Ireland. We have good reason to believe that homœopathy is as yet known only to few aristocratic *malades imaginaires*, and that a homœopathic dispensary is a mere farce.

Examination of the Principles of Homœopathy.

We have already accused Hahnemann of borrowing from the mystical writers of the sixteenth century. In nothing is his tendency to Cabbalistic subtleties more glaringly evident than in the important part which in his system of medicine he assigns to immaterial entities by him designated miasms. Fracastor did not lean more on his indivisible atoms than does the founder of homœopathy on immaterial miasms. These miasms are represented as divided into two classes, the acute and the chronic. We are not informed what is the number of the first, but the second are said to consist of itch, syphilis, and psychosis. Hahnemann is by no means consistent with himself in the degree of importance which in different parts of his works he assigns to these ill-omened *Æons*. Sometimes itch and sometimes syphilis is represented as the source of all our ills: in general, however, itch is the *Demiurgus*, and in § lxxiii. of his *Organon*, he thus speaks of "*that ancient miasm*:"

"It is the sole, true, and fundamental cause that produces all the other countless forms of disease, which under the names of nervous debility, hysteria, hypochondriasis, insanity, melancholy, idiotcy, madness, epilepsy, and spasms of all kinds, softening of the bones, or rickets, scoliosis and scyphosis, caries, cancer, fungus hæmatodes, gout, hemorrhoids, yellow jaundice and cyanosis, dropsy, amenorrhœa, gastrorrhagia, epistaxis, hemoptysis, hematuria, metrorrhagia, asthma and

suppuration of the lungs, impotency and barrenness, megrim, deafness, cataract and amaurosis, gravel, paralysis, loss of sense, pains of every kind, &c. &c., appear in our pathology as so many distinct diseases."

In other places syphilis is made to play quite as important a part, agreeably to the notions of Paracelsus, who compares it to the "fire of Hell that consumed Sodom and Gomorrha," and in his treatise on the disease, thus expresses himself:

"It has been demonstrated" [he is speaking of syphilis] "that this disease *contains within itself all others*, and therefore the physician ought to watch with the greatest care its commencement and termination."—Vol. iii. c. 3, p. 176. Edit. 1618.

To reason against the homœopathic notion of miasms would be downright madness, since no arguments have ever been brought forward to prove its correctness. Like many other things in that absurd system, it has the mere *αυτος εφα* of Hahnemann for its proof, and has really as little foundation as the three elements, salt, sulphur, and mercury of Basil Valentine, the five morbid sources, *Ens Astrorum*, *E. Veneni*, *E. Naturale*, *E. Spirituale*, and *E. Deale* of Paracelsus, or as the notion at present entertained by the Hindoos, and which has proved such an obstacle to the introduction of vaccination amongst them, that small-pox is the incarnation of the goddess MAH-RY UMMA.

Some plausible reason might be assigned for the belief of Paracelsus in the syphilitic origin of disease; but why Hahnemann should fix on so vulgar a malady as Itch for his *Archæus* seems explicable only by supposing that he had himself suffered from the disease, and that this led him to speak with such extraordinary zeal of the absolute necessity of personal experience!

The same remarks apply to the proposition which we have placed second in our summary. The mystic number *three* is of course still preserved, but it is enunciated by Hahnemann simply as his *dictum*, and we believe no homœopathist has ever attempted to support it by argument.

On the importance to be attached to *internal changes*, in other words to pathology, homœopathic practitioners are, even already, divided. The founder of the system leaves no room to mistake his meaning, and the educated physicians who have adopted his views on other points, have been compelled to differ from him on this, acknowledging that "he too strongly condemned pathology." Dr. Black, indeed, has endeavoured to explain away the force of Hahnemann's words,

but the attempt has proved a notable failure(*a*). The Irish Homœopathic Society(*b*) keep closely to the footsteps of their master on this as on all other points, whilst Henderson, Drysdale, and Russell adhere to the opinions of allopathy. All homœopaths, however, agree in this, that symptoms *alone* constitute all that we can know of a disease, and that "when all the symptoms have disappeared, the disease is cured."—*Organon*, §10, 11, 12. Yet, with strange inconsistency, we are told, §203, 225, in cases of chronic disease, to inquire if the patient has had syphilis or psora, and to direct our remedies against this.

Comparing pages 74–5 with page 81 of "Concise View," we learn, that symptoms alone constitute disease, yet disease may be present and the symptoms absent; and also, that eruptions of the skin may exist, although the eruption is removed from the skin!!

Taking proposition 3 of our summary, in connexion with propositions 5, 7, and 8, we have one of those glaring contradictions in which homœopathy abounds. All homœopaths assert that the "great law of Nature," like cures like revealed to Hahnemann by "the star of truth," was not a preconceived idea for which arguments were sought out, but that we ought to regard it as the expression of the results of an "immense induction." Now if we admit that no two cases of disease are sufficiently similar to be classed together, how can we reason inductively, since induction is but the grouping together, under some common quality, of a number of individuals agreeing in that particular? If the disease which I treat to-day be totally different from that which I treated yesterday, and this last from that of the day before, how is such a thing as experience possible? If we admit experience of any kind, we must admit *identity*, not indeed metaphysical identity (for such has no place but amongst the creatures of the human intellect), but a resemblance relatively to our knowledge and means of observation, of the same import. Again, supposing that we are possessed of the most extended knowledge of the actions of remedies on the healthy body, it is evident that our information is useless, so far as disease is concerned, *until it has been shewn that medicines exercise the same influence in health as in disease*, which homœopaths have not yet attempted to do. We know that sights and sounds which in health excite the most pleasurable sensations, give

(*a*) See on this point "Homœopathy Unmasked," p. 81, &c.

(*b*) "Concise View," &c., pp. 92, 93.

rise to acute pain in certain states of disease. Food which, in ordinary circumstances, is grateful to the palate and to the organism generally, in morbid states of the stomach produces loathing, vomiting, and pain; whilst every one who has the slightest acquaintance with disease must know that the effect of substances usually regarded as medicinal varies, in a great measure, with the malady in which they are exhibited, opium at one time producing sleep, at another pain in the head and raving, at another constipation, at another alvine evacuations, at another none of these effects, but simply relief of pain. Surely, then, until we have some proof of the identity of action of medicines, in health and in disease, it is most unphilosophical to apply to the one class of cases knowledge relating only to the other.

The idea that diseases could be artificially produced by drugs, has been a notion prevalent amongst the vulgar in every age, and the classical reader must be familiar with many allusions to the practice. During the sway of the Cæsars, the furtive administration of drugs to produce jealousy, returning love, wasting dropsy, &c., is proved, by the constant allusions of the poets, to have been of the most frequent and ordinary occurrence; and at different periods during the dark ages, the passion of the public for indulging in such guilty attempts seems to have raged almost epidemically at Rome, Venice, Florence, and more rarely in France and Great Britain. The notion, however, that *all* diseases may be artificially produced, and that too by a single ordinary(*a*) dose of a simple medicine, is, so far as we know, due solely and exclusively to the imaginative brain of Hahnemann, and seems a very fair corollary to the assertion, that the effects of all animal, vegetable, and mineral substances, are medicinal and perfectly distinct and different. Our answer to all these *assertions* is simply the fact, that not a shadow of evidence, such as in the ordinary affairs of life would be received by any man of moderate capacity as worthy of consideration, has yet been brought forward to shew that any disease except a mere local inflammation can be produced by a simple dose of any medicine. We defy the whole tribe of homœopaths to point out the slightest distinction in medicinal efficacy between a host of our ordinary articles of food and drink, as well as between many common drugs; whilst the list of articles which, in spite

(*a*) The defenders of Hahnemann are undoubtedly correct, when they assert, that he directed medicines to be tried on the healthy in allopathic doses, but they are not correct in saying that he ascribes to infinitesimal doses the production of no symptoms. But of this anon.

of strong prejudices in favour of their retention, have been expelled from our *Materia Medica*, as totally inert, would occupy probably the entire of this Journal. We doubt, however, after all, whether any person ever *acted on* the belief that all substances are medicinal, quite as much as we do whether any sane individual ever disbelieved in the reality of matter, otherwise than in theory.

As the consideration of the homœopathic law of treatment by similars, will come in more conveniently after we have reviewed the doctrine of infinitesimal doses, we pass now to the question of the necessity of administering only "one simple medicine at a time." On the very threshold of this inquiry we naturally ask what is *meant* by "un seul médicament simple à la fois," and finding no direct answer to the question in the works of homœopathic writers, are forced to try if we can guess out their meaning by their acts. Turning to the Homœopathic Pharmacopœia, we soon learn that it cannot be the natural productions of the earth to which the remark applies, since directions are given for dispensing "*Antimonium tartaricum*," "*Argentum foliatum et nitricum*," "*Aurum foliatum, fulminans, et muriatum*," "*Sodium purum*," "*Kali hydriodicum*," "*Quinia*," &c. &c., none of which are usually regarded as the rude produce of the mine or the field : but perhaps the "star of truth" revealed to Hahnemann, after he had "penetrated the night of mists," some vast storehouse of these products of human industry and skill. Unless we adopt this supposition of our's another of our various readings must be tried. It is evident we cannot fall back on simple chemical constitution, since Hahnemann's own pet salt, the "*mercurius solubilis Hahnemanni griseus*," as it is styled in the homœopathic code, is none of the simplest in its elements or mode of combination. We know of but one other theory to adopt, viz. that Hahnemann approved only of actual chemical combinations. If this be so the father of homœopathy must have very queer notions of chemical combination, since he uses a tincture composed of the following ingredients, morphia, narcotina, meconic acid, bitter extractive, albumen, balsamic matter, caoutchouc, gum, sulphate of potash, lime, iron, alumina, phosphoric acid, ammonia, volatile oil, woody fibre, &c.(b) Now if homœopaths find themselves able to estimate the combined effects of all the above-mentioned substances, dis-

(b) Mean result of Biltz's analyses of opium. In this instance the homœopaths cannot escape from the noose, either by denying that opium has the composition which we have assigned it, nor by asserting the inertness of most of its constituents, since they themselves prescribe morphia and narcotine, in their pure state, and the other salts also are all employed by them.

solved in spirit, *à fortiori* ought they to be able to reason on and estimate the effects of the most complex allopathic doses, which very rarely contain more than two or three active ingredients. Physicians, in prescribing a number of medicines in combination, do not pretend to assign to each (as asserted by homœopaths), some special action which exists independent of the rest, but, to take an ordinary case, having learned from experience that the compound of a certain quantity of water dissolving a known weight of tartar emetic produces particular effects, and that different results are obtained by the administration of the same proportions of these two ingredients with the addition of tincture of opium, surely there is neither absurdity nor false logic in simply expressing the results of experience, by saying that the one combination acts so and so, and that the addition of laudanum modifies its action in a particular manner. If x give one result, and $x + a$ a different, and that each proposition is based on a sufficiently extensive induction, there can be no doubt entertained by any reasonable man, that we have a right to assert, that the difference in the results is owing to the addition of a , even if we are totally ignorant of the constitution of x . We may object to the induction as insufficient (which is the fault in all homœopathic proofs), but admitting the induction (as we must do in the present case, since we are arguing only for the *possibility* and *practicability* of the thing), the conclusion follows necessarily. An instance in point just occurs to my mind. The *mistura ferri aromatica* has been very strongly objected to by a host of writers, unacquainted with practice, and even Dr. Christison, on chemical grounds, says of it, that it is a disgrace to the Pharmacopœia, and should be rejected. Now what has been the invariable reply of practitioners? That the medicine in question is a heterogeneous and unchemical mixture no one can deny, yet it has been retained in our Pharmacopœia, because every practical man agrees with Pereira in asserting that "it is one of the most useful and efficacious ferruginous preparations." Thus we see that reasoning *par voie d'exclusion*, we are compelled to the belief that the assertion of Hahnemann, which forms the substance of so many *ad captandum* arguments addressed by homœopaths to the non-professional public with a view to disparage the ordinary practice, has really no meaning at all, or at least, that *no signification can be assigned to the words, "one simple medicine at a time," which is not contrary to the practice of homœopaths themselves.* In fact, on the subject of the action of medicines, we can scarcely help accusing homœopaths of actual dishonesty, since

we find Dr. Black, notwithstanding all the abuse which he, in common with the other followers of Hahnemann, pours on those who prescribe from experience of medicine in disease letting out in an incautious moment the confession, that experiments on the healthy have proved an utter failure, since it is only “after *years of experience at the bed side*, with the remedies thus represented, homœopathists become *gradually* acquainted with the characters of each, its total operation, with its particular tendencies.”—p. 60. That allopaths do not neglect to investigate the action of medicines on the healthy, will be abundantly proved by a reference to the works of Paris, Pereira, Guibourt, Barbier, &c. The philosophical spirit and close reasoning of the last author in particular, forms the strongest contrast possible to homœopathic looseness and principitancy.

The next of the “Star of Truth’s” revelations, prohibitory of the administration of two consecutive doses of the same medicine, the reader will be surprised to learn, is violated in every one of Dr. Henderson’s 122 published cases, as well as habitually by Doctors Drysdale and Russell, the editors of the Homœopathic Journal, and, we believe, by all other homœopaths. Truly, the infallibility of the founder of homœopathy is of the very queerest description! We come now to what, after all, forms the basis and ground-work, or rather the whole essence of homœopathy, viz. :

INFINITESIMAL DOSES; for, were the followers of Hahnemann, instead of allowing Nature to do what she can without interference, to employ medicines capable of producing any effect whatsoever, the system of treatment by similars could not stand one month’s experience in any country in the world. This fact was virtually acknowledged by Hahnemann himself in various parts of his works, and Dr. Black speaks very plainly on the subject. “With large doses patients may be treated homœopathically, BUT THEN WE MAY FREQUENTLY EXPECT A POSITIVE INCREASE OF THE DISEASE, OR EVEN DEATH. The *experience* of such dangerous and painful aggravations, in no case necessary to cure, led Hahnemann to employ minute doses.”—p. 82, *Black*. Whatever may have led him to employ infinitesimal doses, his theory upon the subject is contained in the following quotations from his *Organon* :

§ CCLXXVII. “It has been fully proved by pure experiments that when a disease does not evidently depend upon the impaired state of an important organ, even though it were of a chronic nature and complicated, and due care has been taken to remove from the patient all

foreign medicinal influence, the dose of the homœopathic remedy can never be sufficiently small, so as to be inferior to the power of the natural disease which it can extinguish and cure, provided it retains the degree of energy necessary to excite symptoms rather more intense than its own immediately after it is administered."

§ CCLXXVIII. "This incontrovertible axiom, founded upon experience, will serve as a rule by which the doses of all homœopathic medicines, without exception, are to be attenuated to such a degree that after being introduced into the body they shall merely produce an almost insensible aggravation of the disease(*a*). It is of little import whether the attenuation goes so far as to appear almost impossible to ordinary physicians whose minds feed on no other ideas but what are gross and material(*b*). All their arguments and vain assertions will be of little avail when opposed to the dictates of unerring experience."

(*a*) "My labours have, in this respect, already done much for those who intend to follow the homœopathic doctrine, and I have spared them a thousand experiments on their own persons by stating to what degree of dilution it is requisite to bring several medicines in order to apply them homœopathically. These indications are to be found in the proem to each medicine described in my *Materia Medica Pura*. Recent experience has shewn me the necessity of carrying these dilutions to a still greater extent than I had done previously, in order to make further advances towards perfection in this incomparable method of cure. I have explained myself on this head at the commencement of the second volume of my *Treatise on Chronic Diseases*.

(*b*) Mathematicians will inform them that in whatever number of parts they may divide a substance, each portion still retains a small share of the material; that, consequently, the most diminutive part that can be conceived never ceases to be something, and can in no instance be reduced to nothing. Physicians may learn from them that there exists immense powers which have no weight, such as light and heat, and which are consequently infinitely lighter than the medicinal contents of the smallest homœopathic doses. Let them weigh, if they can, the injurious words which excite a bilious fever, or the afflicting news of the death of a son, which terminates the existence of an affectionate mother. Let them only touch for a quarter of an hour a magnet capable of carrying a weight of an hundred pounds, and the pain will soon teach them that even the imponderable bodies can also produce on man most violent medicinal effects! Let any of these weak-minded mortals of a delicate constitution but gently apply, during a few minutes, to the pit of the stomach the extremity of the thumb of a vigorous magnetiser who has fixed his intent, and the disagreeable sensations that he experiences will soon make him repent having set limits to the boundless activity of nature.

"If the allopathist, in essaying the homœopathic method, cannot resolve upon administering doses that are so feeble and attenuated, only let him ask himself what risk he ventures by doing so. If there is nothing real except that which is possessed of weight, and if every thing which has no weight ought to be looked upon as equal to a cypher, a dose that appears to him like nothing could have no worse results than that of producing no effect at all, which is at least far more innocent than the effects resulting from the strong doses of allopathic medicines. Why will the physician believe his own inexperience, which is flanked by prejudice, more competent than the experience of several years grounded upon facts. Added to this, the homœopathic medicines acquire at each division or dilution a new degree of power by the rubbing or shaking they undergo, a means of developing the inherent virtues of medicines that was unknown till my time; and which is so energetic, that latterly I have been forced by experience to reduce the number of shakes to two, of which I formerly prescribed ten to each dilution."

The fifth and last edition of the Organon contains some additional matter, from which we translate the following, in order to complete our view of the doctrine of Infinitesimals.

§ CCLXXIX. "By a process peculiar to itself, and never before essayed, homœopathic medicine so develops the organic medicinal virtues of substances in their rude state, that it procures from all, even such as before being subjected to this process exercised no medicinal influence whatever on the human body, effects of the most powerful description."

§ CCLXXX. "Two drops of a mixture consisting of equal parts of alcohol and vegetable juice are dropped into 98 drops of alcohol, and *two shakes* are given to the bottle containing the liquid; we must then procure 29 other bottles, each containing 98 drops of alcohol, which is two-thirds its capacity, and let fall successively into each of these one drop of the liquid contained in the preceding one in the series, taking care to give each bottle(c) two shakes. The last, or thirtieth, contains the dilution at its decillioneth degree of power, and is that which is most frequently employed."

The next section gives directions for the compounding of insoluble substances, which it is unnecessary to quote. They are to be pounded during three hours, and then one grain dissolved in spirit, which is to be manipulated precisely as the vegetable juice. Hahnemann having latterly got out of conceit with the sugar pills, made use almost exclusively of the tinctures(a).

Such, then, is the homœopathic doctrine of doses, and as it is very important to have clear ideas what it is we are speaking and reasoning about, the following illustrations may serve to give some faint and shadowy notion (for this is all that can ever be hoped for) of the *doubly infinite* expansion of Hahnemann's excursive genius. The globe of our earth contains in round numbers about four thousand trillions of cubic

(c) "Founding my opinion on extensive experience, and the most careful observations, and anxious to fix a precise limit and mean to the development of the virtue of medicinal fluids, I have been obliged to direct *two shakes* only to be given to each bottle, in place of, as formerly, a greater number, which would develop too highly the power of remedies. There are some homœopaths who carry about with them in making their visits homœopathic medicines in a liquid form, and who pretend that their medicines do not thereby acquire an augmentation of power. Their maintaining such a proposition *only proves that they have not a rigorous spirit of observation*. I dissolved a grain of carbonate of soda in half an ounce of water mingled with a little alcohol, and shook for half an hour without intermission the bottle containing the liquor, which was two-thirds full; I then found that it equalled in energy the thirtieth dilution."

(a) "Medicines were at first (and often are still) triturated with successive quantities of sugar of milk, and by means of cane sugar, formed into pills the size of poppy seeds."

feet, and taking its mean density at 5.66, as recently determined by Baily (Mem. Astron. Soc., vol. xiv.), we find that *a mass of spirit of wine somewhat more than ten times the weight of the entire earth would be required to contain ONE SINGLE GRAIN of any substance at the fifteenth dilution.* This, however, is as nothing in the estimation of homœopaths: we are as yet but on the portals of the "science," and have still to be initiated into the "mysterious operations of Nature." The Irish Homœopathic Society's publication informs us, pp. 58 and 59, that

"No distinct limit can yet be fixed as to the degree of preparation, where the medicines thus prepared cease to show medicinal effects when applied in disease. Some medicines, *e. g.* sulphur, have been pushed to the 1500th and 2000th degree of preparation, and have exhibited *undoubted and distinct medicinal effects.*"

Now the greatest distance astronomers have actually attempted to calculate is that of the fixed stars. Dr. Brinkley made nearly 6,000 observations on three of the brightest giving a parallax of from $1\frac{1}{2}$ to 5 seconds, and if we take a mean of these results, we find the fixed stars many million times more remote than the sun, in fact so far removed from the earth that even light would require above a year to travel from them to us; yet to contain but an ordinary dose of sulphur, such as is constantly given in the country, it would require a spherical mass of alcohol of a diameter *double as great* as the distance of the fixed stars!!!

In perusing the works of Hahnemann, we find ourselves between the horns of a dilemma, from one or other of which we see no means of escape. Either Hahnemann was more than ordinarily inconsistent with himself, rash, and prejudiced in forming conclusions, and most obstinate and intolerant in adhering to them when formed, or he was deeply impressed with the power of the mind over matter, and invented a system in which the imagination plays a principal part. In the one case he was a madman, and in the other a knave; and the latter conclusion is, we think, that which our readers will adopt before we have concluded this article. We proceed to examine the

Analogical argument in favour of infinitesimal doses: and here we would advise the reader to look over again the note to § 278, quoted at page 186, where we are first informed that it is the result of mathematical research, that a body, by subdivision, is not annihilated, and having cut through the Gordian knot of the indivisibility of matter, a series of cases illustrative

of the powers often possessed by imponderable agents is brought forward to prove—what? That's just the question which, from the text of this note, it were hard to answer. It cannot be to prove to physicians, that bodies which we are unable to subject to weight and measure are possessed of active properties, since, from time immemorial, this doctrine has been the very curse of medicine; and of late years medical men have most usefully devoted an immense proportion of time and talent to the investigation of the therapeutic influence of light, climate, temperature, electricity, &c., &c. on organized bodies. If the note be not intended to prove the probability of infinitesimal doses being possessed of therapeutic powers, it has no meaning that we can conceive. Hahnemann's argument, in this place, will then stand as follows: *Some things that are imponderable are possessed of great powers. Homœopathic medicines are not imponderable. Therefore they are possessed of great powers!!!* Such is Hahnemannic logic, not as exhibited in one solitary place, but in a variety of instances; one more example of which we shall quote before we have done.

Argument for infinitesimal doses, derived from experience; and here we are met *in limine* by such direct contradictions as in any other case would at once overthrow any inductive process, however extensive or varied; Hahnemann, *Organ.* § 277, 280, 281, and *Jahr. plur. locis*, asserting that medicines to do any good must have the power of exciting "symptoms rather more intense than the disease to be cured;" and Drysdale, Russell, Brown, &c. *denying* that infinitesimal doses ever produce symptoms.—*Drysdale and Russell*, p. 172, *Concise View*, p. 61. To any well-regulated mind these contradictions, taken in connexion with the following from high homœopathic testimony, would be quite enough to overthrow the whole doctrine, without reference to overwhelming arguments of another kind.

"Dr. Muller, referring to the practice of the Leipsic Hospital, as bearing upon exacerbations, says: 'It appears not a little extraordinary that they now see nothing of these aggravations, of which, only two years previously, they were able daily to adduce several examples.' The explanation of this change he properly seeks in the '*preconceived notions of the practitioners.*'"—*Black*, p. 147.

But, besides those who may be misled by "*preconceived notions*," and that large class of prejudices quaintly called by Bacon "*Idola*," we have not a few homœopaths who practise on the credulity of the simple, and without whom both mesmerism, phrenology, and homœopathy would have been

ephemeral indeed. In illustration of this phase of the system, we might quote from Dr. Wood's excellent little work, "Homœopathy Unmasked," some *Examples of Homœopathic Experiments* which would prove to the most sceptical on this subject, that the drunken ravings of the most obscene and polluted wretches have been gravely set forth as philosophical experiments on therapeutics; our limits, however, forbid.

Infinitesimal Doses viewed simply as a Theory. Even considered in this light alone, the doctrine of small doses is hedged in with difficulties of the most insuperable kind. If a medicine received from the hand of a homœopath produce certain effects, surely the same medicine derived from other sources will produce like effects, unless the *intention* of the prescriber be an element in the cure. When Hahnemann administers his decillioneth of a grain of charcoal to neutralize a malady, why is it *his* dose alone that works a cure, when the many million times larger quantity of charcoal which the patient has been swallowing in the air that he breathes, and the water that he drinks, is overlooked, and regarded as altogether inert, although its degree of subdivision is at least as great as could be effected by any artificial means. The presence of carbonaceous matter in the air of all civilized countries, and especially of our great towns, no one will deny; and its existence in all ordinary water is even more generally known and admitted. Some years ago, a distinguished chemist in this town, Mr. Scanlan, shewed that nitrate of silver will remain for months, exposed to direct sun-light, of a pure white colour, if the water in which it is dissolved be quite free from organic matter. This assertion has been found to be correct; yet, we venture to say, that there is not one ounce even of distilled water in this city at present which will stand the test. But let us take another substance, which is somewhat less diffused—common salt, or *Natrum muriaticum*, as it is styled by homœopaths, is given in doses of the decillioneth of a grain, and its action is said to continue for forty or fifty days. The train of symptoms producible by a dose of this description occupies six closely-printed pages of Jahr's Manual; and these symptoms vary in gravity from "*Fièvre typhoïde avec faiblesse, sécheresse de la langue et forte soif*"—"Excitation immodérée des parties génitales et de l'imagination pour le coït," &c., down to CORNS ON THE TOES, "*Cors aux pieds avec douleurs lancinantes et terébrantes.*" Notwithstanding all this terrible activity of chloride of sodium, we are both breathing and drinking and eating it from infancy to age, something like Moliere's gentleman, who spoke prose all his life without knowing it. What a

pity the poets were not previously aware that a single tear-drop contains millions of times more of this powerful medicine than would suffice for the treatment of all the individuals of the human family *who have ever had an existence!!* and yet we rashly add to our food, daily, quantities of salt that would require *atmospheres* of spirit properly to dissolve!

Again, this doctrine is liable to another theoretical objection, which strikes at its very root. We know that all bodies *wear* by the continued action of fluids; glass becoming dimmed, and the hardest rocks eroded by exposure to a running stream. Now supposing that a utensil would only undergo, by the uninterrupted attrition of a fluid or solid body, a loss such as our most delicate balances can barely detect in a period of time equal to that which has elapsed since the creation, it would be easy to prove by calculation that each dilution, by whatever means effected, must abstract many thousand times a decillioneth of the substance of the vessel; and as this must take place on all sides, and on every contact, whether of a fluid or solid, homœopathic medicines must really be *far more complex* than any others, since allopaths consider only the grand preponderating entity as possessed of any influence. If bodies be infinitely divisible, (and infinitely divisible, by the means adopted for that purpose by Hahnemann), our argument is invulnerable. If bodies be not infinitely divisible, our argument falls to the ground, and with it the theory of infinitesimal doses. Lastly, if medicines have their powers enormously developed by shaking and pounding, we would suggest that country practitioners, instead of sending to town for a fresh supply of drugs, should merely examine their drawers and bottles, and having detached “with a bone spatula” what they may find thereunto adhering, should shake or pound it perseveringly for some hours, until “the hidden virtues of the medicine are developed” to the degree required.

Were anything like these homœopathic notions really true, man would be the most unhappy of all God’s creatures. His organism would be continually exposed to the influence of agents of the most terrible and extended powers, but which he could never hope to appreciate or even to perceive; whilst to escape the sphere of their influence would be as impossible as to separate himself from all that exists, animate and inanimate. But the all-wise Creator has not thus made us the sport of the elements. He has endowed us with senses at once to preserve our own animal existence, and to afford us an inexhaustible source of pleasure of the purest and most permanent description, for “the works of God are good,

sought out of all them that take pleasure therein." Various bodies affect only one sense, but of such as (like the homœopathic medicines) we have evidence of from *none* of our senses we can have no idea. We may, indeed, form wrong conclusions from the evidence of our senses, but that they should *combine* in deceiving us is an impossibility, since we know of the external world only through them. When we look around us, however, we find that instead of man being under the influence of infinitely minute portions of bodies, it is directly the reverse. Nothing that we make use of is either simple or unmixed. The very air that we breathe is but a *mixture* into the composition of which, moisture, carbonic and hydrosulphuric acids, &c., enter in the most variable proportions: the water that we drink is never any thing like pure, nor would it be as salubrious if it were; the bread that we eat has always mixed up with it the pulverized seeds of a variety of weeds, &c. &c.; then, as to medicinal substances, most of them it is practically impossible to prepare in a state of absolute purity, particularly the metals, which probably very few of our readers ever saw free from various adulterations. Yet, in the face of all these facts, and of a host of others, which we have neither space nor inclination to cite, men reputed intellectual, have advocated the doctrine of infinitesimal doses! Have we not then a right to impute *design* somewhere, when such persons tell us that "*wine and alcohol, the simplest of all the excitants, are the only ones, the heating and intoxicating effects of which are diminished by dilution with water?*"—*Organon*, 5me Edit. § 286.

Treatment by Similars. The proposition "*similia similibus curantur*," is proposed for our adoption as "a universal and infallible law of nature." We shall not trouble ourselves to shew the absurdity of attempting to establish any thing as universal or infallible, by deduction of any kind, and *a fortiori* by one carried on by a few individuals in a short space of time, and the results of which vary with the time, the locality, and the previous character and pursuits of the observer; nor shall we for the present, consider the antecedent probability of the existence of such a pathological law, but, taking matters upon the shewing of the homœopaths themselves, we proceed to examine whether the facts, such as they have represented them, justify the conclusion that they have drawn. Hahnemann, and all his followers, support their views by an appeal to 1, Analogy; 2, allopathic; and 3, homœopathic experience. We shall begin with the

Analogical evidence of the probability of the homœopathic law of similars—which we find thus stated (Organon, § 21, note):

“Physical and moral diseases are cured in the same manner. Why does the brilliant planet Jupiter disappear in the twilight from the eyes of him who gazes at it? Because a similar but more potent power, the light of breaking day, then acts upon these organs. With what are we in the habit of flattering the olfactory nerves when offended by disagreeable odours? With snuff, which affects the nose in a similar manner, but more powerfully. Neither music nor confectionary will overcome the disgust of smelling, because these objects have affinity with the nerves of other senses. By what means does the soldier cunningly remove from the ears of the compassionate spectator the cries of him who runs the gauntlet? By the piercing tones of the life coupled with the noise of the drum. By what means do they drown the distant roar of the enemy’s cannon, which carries terror to the heart of the soldier? By the deep-mouthed clamour of the big drum. Neither the compassion nor the terror could be suppressed by reprimands, or a distribution of brilliant uniforms. In the same manner, mourning and sadness are extinguished in the soul when the news reach us (even though they were false) of a still greater misfortune occurring to another. The evils resulting from an excess of joy are mitigated by coffee, which of itself disposes the mind to impressions that are happy. The Germans, a nation which had for centuries been plunged in apathy and slavery—it was not till after they had been bowed to the dust by the tyranny of the invader that a sentiment of the dignity of man could be awakened within them, or that they could once more arise from their abject condition.”

If all this have any bearing at all on the homœopathic law it must prove the following: that when the eye is pained by looking at a glittering object, we have but to gaze for a while at the sun to relieve the suffering organ; that when in a crowded assembly we are offended by disagreeable emanations, we have but to cause a sufficient quantity of sulphuretted hydrogen to be eliminated to remove all annoyance of the kind; and when alarm is caused by the firing of a pistol, it will be at once removed by firing a piece of ordnance. The idea of military drums being intended to drown the roar of the artillery, and thereby prevent the soldiers from getting frightened, is a capital illustration of Hahnemann’s reasoning, as to cause and effect. The next illustration argues only a demoniacal mind, if it be given as the result of experience: extreme ignorance of the phenomena of mind, if only a theory. Truly there must be great hope for the poor oppressed sons of Africa, if there be any shadow of foundation for the last of these illustrations of the *lucidum per*

obscurum. All the facts made use of in this manner, so far as they are true, only go to give probability to a doctrine which has been acted on both by the learned and the unlearned, from the very earliest ages, but which was first clearly enunciated, and examined in all its generality, by one who, with all his faults and failings, did much to advance human knowledge, and has left as a legacy to mankind, not a collection of vague and conflicting hypotheses and false assertions, but a vast repository of accurately examined and carefully noted observations, which will be valued so long as medicine is a science. Broussais was indeed the first to state distinctly, and in terms that it appears to be what may be called a pathological law, that two diseases of equal intensity, cannot co-exist in the same subject. A proposition serving to group together under one point of view the experience of ages as to *counter-irritation* and *derivation*—means of combating disease, which, with their usual inconsistency, are, totally discarded by homœopaths.

Evidence for Homœopathy derived from allopathic Experience.

We shall take first some cases triumphantly adduced by all homœopaths, from Hahnemann to Henderson :

“It is, *e. g.*, well known that a frost-bitten member is best cured by the application of snow or iced water, while hot applications, in a case of this nature, would impede the cure or even induce mortification. A scald or burn is quickly cured by holding the affected part close to the fire or by applying hot spirits, whereas the application of cold would increase the inflammation and materially interfere with the recovery of the patient. An over-heated person quenches his thirst and cools himself most quickly and safely by taking warm beverages or a small quantity of spirits, &c.”

Now we presume it will not be disputed that cold is but a minor degree of heat, as is well shewn by placing one hand in very cold, and the other in very hot water for some time, when on plunging them both into water of a medium temperature, the last fluid appears hot to the one and cold to the other. So far then for the cause, the operations of which we have to explain, for few homœopaths, we have no doubt, will be found to maintain that cold and heat are distinct entities. Let us, then, apply to this case the principles laid down by Hahnemann. In the *Organon* (or Bible of homœopaths) we are told, that the medicine which will effect a cure, must be capable “à faire naître une affection médicinale analogue, *mais plus forte*, qui éteint la maladie naturelle.” (5^{me} edit. § 155). Now applying this to the case in hand, does it not follow that when a burn

has been produced by a *red-hot* iron, we are either to treat it by *infinitesimal doses of heat*, i. e. by cold, or if the small dose system be, as usual, powerless 'in urgent cases', we know of no way of applying heat so as to produce 'a more severe disease,' but by using as a remedy an iron at *a white heat!!* The absurdity is even greater, if possible, in the case of a frozen limb, since sensation and the confusing terms which the inadequacy of language compel us to make use of are in that instance got rid of. A limb has the circulation arrested by exposure to extreme cold, and friction is made use of to restore the circulation, and because the homœopath sees that the *rubber* is a mass of soft snow, he says that it is the cold that cures; or in the other case, where gradual warmth is employed, because the application is *cold to the homœopath*, he proclaims, as the revelation of the "star of truth," that cold cures cold. Allopaths, directed by experience, and not led blindfold by hypotheses, which presume a degree of knowledge we do not, and probably never shall possess, neither employ heat nor cold as a panacea for burns, and explain the phenomena we have been alluding to (the consideration of which occupies several pages of Drs. Drysdale and Russell's Miscellany) by a simple but comprehensive expression of the facts which have been observed, viz., that "all sudden and violent *alterations of temperature* are productive of injury to animal bodies.' There is another popular illustration found in all the homœopathic books so shallow as to be absolutely ridiculous, yet it is dwelt on with all possible gravity. It is said that alcohol produces on the lips a feeling of heat, which explains its being a popular remedy for overheating, the homœopaths totally forgetting or choosing to forget that it is a still more popular remedy for *overcooling*, the real explanation being that the patient was anxious to find an excuse for using the remedy. Homœopathic reasonings on therapeutics constantly remind us of the old logical pun, "white is a colour, black is a colour; therefore black is white."

Let us now turn to a more formal and elaborate argument: but first it is necessary to premise, that nothing can possibly be farther from our intention than to attempt to prove that "*similia similibus curantur*" is *never* true. This would be to involve ourselves in the very error which we believe to be at the root of all the reasonings of our opponents. We have quite as little inclination to contend for "*contraria contrariis*" as for "*similia similibus*," because, with Gaubius, we believe that '*melius est sistere gradum quam progredi per tenebras*.' When we have facts, we are willing that they should be generalized as much as possible, provided it be done with

correctness and without precipitation. We willingly adopt the expression of Hoffman, "*Ars medica tota in observationibus*," but we join to this apophthegm as the sense in which observation is to be understood, the remark which Morgagni makes in one of his letters, "*Neque enim numerandæ sunt sed PERPENDENDÆ observationes.*" It is in order to shew that this last caution has been totally lost sight of by homœopathic writers, that we now proceed to examine the following quotations from the Miscellany which appeared a few months ago, edited by Drs. Drysdale and Russel. They are selected only for their shortness, and for their being about the most specious instances adduced, amidst a mass of silly cases, the actual *absurdity* of which is apparent at once.

"TARTAR EMETIC.

"The administration of tartar emetic in pneumonia, a practice introduced by Rasori, has been employed with great success."

"As far as regards the use of emetics in dysentery there is no difference of opinion among practitioners: the early periods of the disease are those in which they have been found most useful; the effect of contagion has been prevented; and in many instances, as in other fevers, the disease has been cut short. Both tartar emetic and ipicacuanha, particularly the latter, have been judiciously selected for this purpose by the best practitioners." (Thomson's *Mat. Med.*, p. 725.)"

"After the administration of tartar emetic, 'the lungs are found more or less inflamed.' (Beck. *Med. Juris.*, p. 788, edit. 6.)"

"In all Magendie's experiments with tartar emetic, the lungs were found of an orange red or violet colour throughout, destitute of crepitation, gorged with blood, dense like the spleen, and here and there hepatized. (Magendie sur l'Emetique, Paris, 1813, p. 24, *et seq.*)"

"Orfila writes, 'Independently of the inflammation, more or less intense, of the parts to which the tartar emetic is in contact, this poison causes also phlogosis of the lungs and digestive canal. The deleterious effects of the tartar emetic are manifested, whether it be injected into the veins, introduced into the digestive canal (provided it has not been vomited for some time after its introduction), or into the serous cavities, or applied to the subcutaneous tissue: it acts particularly in inflaming the lungs, and mucous membrane which lines the intestinal canal, from the cardia to the inferior extremity of the gut.' (Traite de Médecine Legale, 3rd edit., t. 3, p. 218.)"

Now here we are led to believe that the well-known efficacy of tartar emetic in pulmonary inflammations is explained by its having a tendency to produce the same effects when administered in a state of health, and three authorities are quoted as sanctioning this view. Yet what is the fact? There is not a single case on record of pneumonia produced in the human subject by large doses of tartar emetic; and only one case could be discovered by Orfila (from J. Cloquet), which *might possibly* be ascribed to that cause! Dr. Black must have known that Dr. Beck merely quotes Orfila as his authority, yet Dr. Beck's name appears at the head of the list as an additional witness. Then, as to the effects on animals, we know that Orfila and Magendie were both of them very strongly predisposed to find some proof of the accuracy of Laennec's view of the action of antimony on the bronchial membrane and parenchyma, and in consequence they very greatly exaggerated both the amount and the frequency of the lesions discovered. Rayer and Bonnet, on repeating their experiments, were unable to find *any lesion* of the lungs, and, in the majority of cases, of any organ whatsoever (*Dict. de Med. et de Chirurg. Prat.* iii., 69), and the same negative results were obtained by Thompson, Moiroud, Campbell, Gilbert, &c. "Nous croyons devoir ajouter," says M. Devergie, "que, dans plusieurs cas, les altérations trouvées apres la mort n'ont pas répondu a l'ensemble des phénomènes morbides observés pendant la vie." In reasoning on homœopathy, however, we are at one moment to regard disease as a group of symptoms only; at another, when it suits the convenience of our opponent, to recur to the heterodox opinions of allopathy and adopt them as our own. Throughout the works of homœopaths it is a continual subject of railing that the ordinary medicine is based on experiment performed only on the inferior animals; yet here an attempt is made to palm off such experiments (and even they are not established) as the *sole foundation* for the admission of an important doctrine. Although it *has not* been proved that tartar emetic produces pneumonia (which it cures), it *has* been proved that inflammation of the lungs and pleura is often caused by sulphuric acid (*Edin. Med. and Surg. Journal*, vol. xxxv., p. 298, &c.), oxalic acid (*Lond. Med. Repository*, vol. iii., p. 380), and, indeed, by most of the irritant poisons which act chemically; whilst no one who has had any extensive experience in forensic medicine can have failed to meet with cases proving the powerful action of arsenic on the lungs, though we are not aware of its having ever been vaunted as a *specific for inflammation of those organs*. We are quite sure that

Dr. Black never saw tartar emetic used for the cure of a dysentery by any well-informed allopathic practitioner, although, on the first occurrence of febrile symptoms, custom more than anything else leads many persons to look on vomiting as a preventative, the origin of which notion it would not be difficult to trace.

This is followed by a similar argument in parallel columns, with a great display of *apparent* preciseness and learning, which all amounts to this: nitric acid given *internally* produces ptyalism, and since it is occasionally used, in common with nitrate of silver, a hot iron, and other caustics, to repress ulceration of the gums, it is therefore homœopathic to ptyalism! Of course then, the other remedies alluded to must also have the effect of producing ptyalism, though we have not heard of their doing so. Next we are informed in one column, that Dr. F. Hoefer has found platinum useful chiefly in syphilitic and rheumatic affections, and in the other that mercury is homœopathic to these affections, and *therefore* platinum is homœopathic to syphilis!

Without making any remarks we would merely place in apposition to these sapient observations the parallel passage from Jahr's Manuel (*seconde partie*, vol. 2me., p. 562), where we are gravely informed that the homœopathic tincture of arnica cures corns and callosities on the feet by being made use of *after the corns are extirpated*, which Dr. Wood most pertinently compares to the mode of catching birds by *putting salt on their tails*. It now only remains for us to examine the

Support which homœopathy derives from the experience of its advocates. On this head we have collected very ample materials, but from the length to which the previous remarks have necessarily extended, we must limit ourselves to a few observations on Dr. Henderson's published cases, and on the statistical tables appended to the work of the Irish Homœopathic Society.

As we fully expected, Dr. Henderson's cases bear every internal mark of perfect honesty and good faith. He is not a thorough-going homœopath, however, being so very heterodox as to admit that blood-letting, counter-irritation, and other allopathic means, are occasionally necessary. The first thing that strikes us in the list of his cases, is the enormous proportion of females, ladies' maids, and such like, who have applied to him; but overlooking this, and coming to his practice, we find that the matter stands as follows:

A.—*Recent and Inflammatory.* The first twenty-four cases are examples of acute tonsillitis, diarrhœa, and erysipelas of the face, such as any one of but ordinary experience would have expected to get well in a day or two, *naturally*, as we say. The 26th, is a slight case of acute rheumatism, which subsided on the twelfth day. The 27th also acute rheumatism supervening on rheumatic pains; *convalescent* on the seventh day. The 29th was neuralgia *of twelve hours standing*, and which subsided nine or ten hours after the commencement of the treatment. The 30th, neuralgic paroxysms sometimes lasting two hours, and first occurring ten days previous. Treatment—farinaceous diet, and Aconit. 2, every four hours. The last note of this case is on the third day, when we are informed that the attack of the previous day had lasted *four hours*, but was not so severe as the previous ones. We are not told when the patient was next seen, but simply as follows: “no return of the facial pains occurred, but there was some suffering on the third from toothach, which ceased under the use of Belladon. 6, and Spigilia 6, so that the pain was gone in the evening;” and here endeth the narrative. 31st,—Epidydimitis or neuralgia (for the description is imperfect), occurring spontaneously, and subsiding after various aggravations in about a fortnight. The next case is perfectly ridiculous; it is the very ordinary malady of cough and hoarseness, cured in two days by lying in bed. The 33rd and 34th are cases of pneumonia. The first in a man aged 46, with a broken-down constitution, terminated fatally; the second, in a girl 10 years of age, was cured. The girl was taken under homœopathic treatment on the sixth day of the disease, *the side having previously been leeches, and tartar emetic having been administered several times, the day before admission*: “no other effect followed the previous treatment than relief of the pain.” The phenomena seem to have been well marked, and on the ninth day of the treatment by infinitesimals, and the fifteenth of the disease she was out of bed. Phosphorus, bryony, and sulphur, were what Dr. H. prescribed in succession. The 35th case resembled hydrocephalus, and terminated fatally, being comatose when first seen. The next division is headed

B.—*Chiefly chronic cases, or recent and not inflammatory.* We have first, CASE 36. A gentleman subject several years previous to attacks of headach and blindness, of variable duration, and sometimes lasting all day, gets a similar attack. Dr. Henderson is called in and prescribes Belladonna 18, which is

repeated, and in about an hour "both headach and blindness were totally gone." CASE 37.—A lady suffering from severe neuralgic pain over the anterior part of the head and in the eyes, with flashes of light, and ringing in the ears, of *six hours standing*, cured in about an hour, by two doses of Belladonna at the sixth dilution. CASE 38.—A lady subject to neuralgic attacks of variable duration; *cured* of one which had lasted about eight hours, an hour after the administration of the remedy. The next, CASE 39th, though given very imperfectly, is really a good one, as the patient seems to have derived great advantage from Dr. Henderson's advice, if not from his medicine. A lady, subject during many years to neuralgic pain in the head and bitter eructations, which, although the bowels acted well, she was in the habit of warding off for several days at a time by the use of purgatives, consulted Dr. H., and was cured by homœopathy in about three weeks. We are not informed what dietetic regulations this patient was put under, or whether she had ever before omitted for a time the use of purgatives. CASE 40.—A lady subject during fifteen years to headachs, occurring at several weeks' interval, and almost weekly for the last two months, was treated in succession by Lachesis 18, Calcarea carb. 6, Pulsatilla 6, Nux vom. 12, Bellad. 18, *China* 2; tolerably varied medication, one would think, for one possessed of a "simple and infallible guide for choosing remedies." She came under Dr. Henderson's care March 7th, 1844, and we find her still under homœopathic treatment on the 5th of June, 1845; a little better, it is said, but still subject to her headach. Passing over several other neuralgic cases of the same kind, we come to CASE 47.—Epilepsy; of the subject of which it is said, "He continued under treatment for nearly a year. Several times the interval was extended to eight, ten, and eleven days, and once to thirteen; but after these more protracted intermissions, the fits recurred with greater frequency for six or eight days; so that no actual improvement has remained." CASE 48.—A lady, subject to spasmodic paroxysms of a very peculiar kind, took Sulphur 9, Cuprum metallicum 6, Acet. Cupri 3, Arsenicum 6, and after *thirteen months* of treatment, the paroxysms are stated to occur after *shorter* intervals than before homœopathy was tried. Omitting No. 49, in which homœopathic and allopathic remedies were tried in conjunction with *time*, we have in CASE 50 some particulars respecting an neuralgic complaint of the head, affecting a lady, and which came under homœopathic treatment about a month after its commencement: a

variety of things were tried, but without success, when, "a few days after, she was removed to the West of Scotland, and within twenty-four hours the pains finally ceased."

Having now gone through fifty cases in succession, our limits compel us to pass on at once to the few instances of skin disease detailed by Dr. Henderson, but the reader may feel assured, that the cases omitted are of the same unsatisfactory nature as those of which we have given an analysis.

CASE 106.—A boy, $2\frac{1}{2}$ years old, affected with a reddish, dry, hard, scaly eruption, with itching, dating from the period of nursing, and evidently, from Dr. H.'s description, of late, greatly diminished in its extent. Two drops of Tinct. Sulphur were ordered to be taken night and morning, and in a few months a cure was effected.

CASE 107.—*An eruption* (this is, in fact, all we can learn from Dr. H.'s very loose and imperfect description of it), existing with *irregular exacerbations* for several years, under the use of "Tinct. Sulphur, one drop thrice a day;" and "*ointment* of sulphur 2, to apply to the spots," after two months appeared to be improved, the spots continuing "mere stains without irritation."

CASE 108.—A lady three years troubled with impetigenous eruptions, accustomed to fade and reappear irregularly, was treated by Belladonna 18, Platina 18, Calcarea Carb. 6, Pulsatilla 3, Sulphur 9, Sepia 18, Nux Vomica 12, Cicuta 12, Kreasote 12, Lachesis 12!!! in all their permutations, yet, after exhausting the homœopathic Pharmacopœia, we are told that the eruptions remained *in statu quo*.

CASE 109 is almost a *fac simile* of the previous in its course and consequences.

CASES 110 and 111, scaly eruptions, accustomed to fade partially at times, said to be improved after *some months'* treatment;

CASE 112 is Eczema, doctored alternately by Dr. Henderson and an ordinary practitioner, but fading and reappearing independently of the treatment of either, and so on to the end of the chapter.

CASE 113.—Pustular eruption, affecting the nose and chin of a lady during the winter months, and disappearing in spring; two months' trial of homœopathy ineffectual.

CASE 114.—Acne rosacea: not cured.

CASE 115.—A girl, aged 4; nævus; no result.

CASE 116.—A lady afflicted with chronic rheumatism; treatment unsuccessful.

CASE 117.—Pain in shoulder of nearly four months' standing; came on gradually, and subsided (in spring) after less than a month's treatment.

CASE 118.—Chronic rheumatism, affecting the wrist and two of the fingers of a lady's hand; thought to be rather better after taking a variety of medicines during more than a month.

CASE 119.—Of the same description; some improvement took place in about six weeks, the patient having, shortly after commencing the treatment, taken lodgings in the country. CASE 120.—Vomiting and nausea, the result of suppression of the lochia two years previous; occurring at irregular intervals, and generally “lasting for several days.” Dr. Henderson was applied to when one of these attacks had lasted *three days*. Vomiting took place but once after his medicine; another attack happened three weeks afterwards, and did not again occur. CASE 121.—A lady, subject to slight palpitation, and anomalous pains in the side and extremities, occurring occasionally during many years, was ordered not to drink her tea so strong, and, after taking medicine *four months*, was still subject to her old complaint, but slighter and at longer intervals. CASE 122, and the twelve others that follow it, are all acknowledged by Dr. Henderson to be either negative, or decidedly unfavourable to homœopathy.

Such, then, is Dr. Henderson’s experience of homœopathic practice. It is unnecessary to inquire whether under allopathic treatment the results would have been different. We believe that in many cases they would have been widely different; but, however that may be, we feel perfectly certain that such a collection of cases no physician consulting his own reputation would ever venture to lay before his professional brethren, as reasons to induce them to adopt any new line of practice, even were that practice one in no way opposed to the accumulated experience of ages, and which could be supported by *real* analogies, and arguments which would bear to be examined. Before, however, saying any more on this subject, let us turn for a moment to the formidable array of statistical tables at the end of Drs. Drysdale and Russell’s Miscellany, and, on a still larger scale, in the appendix to the publication of the Irish Homœopathic Society.

All statistical writers have laid it down as a fundamental law, the truth of which will be evident on a moment’s consideration, that the facts must be collected under conditions as nearly as possible identical. Hence, when Broussais, from 30,000 cases, deduced the almost invariable occurrence of intestinal lesions in typhoid fever, his conclusion, though true as a general proposition *relating to Paris*, was perfectly groundless when carried out, as it afterwards was, to the pathology of fever in general. The first epidemic of cholera was, as all the world knows, vastly more fatal than the

second (the mortality from this disease in the homœopathic hospital at Vienna being in the first upwards of *forty* per cent., and in the second but *six* per cent.), therefore we cannot compare a particular mode of treatment applied to the first with the same applied to the second. The mortality in the Dublin Foundling Hospital was, at one time, nearly cent. per cent., but after ventilation and cleanliness were properly attended to the deaths did not much exceed the ordinary average.

Now any one who will take the trouble to examine the question will find that the statistical argument furnished by homœopaths, in every instance, violates *all* the rules laid down by Gavarret, and other writers on statistics, as necessary to be observed in collecting facts—which, be it remembered, were not framed with any reference whatsoever to the question we are now discussing. It is not necessary, however, to go into any nicety on this subject, although any thing put forth with such high pretensions ought, in all justice, to be able to defy the severest investigation, when fairly conducted. As we have said, we do not ask permission to try homœopathy by the *ordinary rules of reasoning*, but taking the facts on their own shewing, what do we find? that the mortality in the Vienna homœopathic hospital is *eighteen times as great* as in the homœopathic institution of Brieg, in Silesia. How, then, can we compare the *gross* deaths in some sixty or seventy allopathic hospitals, into which patients of all classes are admitted *indiscriminately*, large numbers merely to undergo the *dernier resort* of an operation, with that of the small homœopathic *dispensaries*, which choose their cases, perform no operations, and are under the necessity of admitting none? If we take the table, the contents of which we are alluding to, and compare the *analogous institutions in the same places, and at the same times*, the account stands thus :

<i>Allopathic.</i>		<i>Homœopathic.</i>	
	Mortality per Cent.		Mortality per Cent.
Leipzig Med. Instit.		Leipzig, 1839-40, .	4—5
for poor patients, 1839,	2—3	Vienna, 1838-9, . .	5—6
Vienna, 1838, In-			
quisition Hospital, . .	3—4		
	<hr/> 2.5—3.5		<hr/> 4.5—5.5

Now these are the only cases that the table enables us to compare, paying attention to "*l'ensemble des causes possible*,"

so far as that can be done by the information furnished, and it shews twice as great a mortality under homœopathic as under allopathic treatment, even taking the facts as they are represented, and we fearlessly assert that this is *the only fair conclusion that the premises will warrant*. As we have already said, however, we attach not the slightest importance to the array. Homœopaths have as yet but two well-established hospitals, and every one who knows anything of dispensary practice will agree with Dr. Black in attaching no value to the results derived from such sources. That there is less mortality in the Josephinum Hospital under homœopathy than in the Allgemeine Krankenhaus we really believe, and the fact need surprize no one. The former is a small hospital of sixty beds in the most healthy part of Vienna, clean, well ventilated, and admirably kept, like a French hospital. The other is an immense building, badly ventilated, over-crowded, and very dirty. In addition to the injurious effects of bringing together so enormous a number as 3600 sick persons, the *vis medicatrix* has to struggle against the strangest kinds of routine practice, which are seldom so harmless as that long adopted by Skoda of prescribing an ounce of distilled water three times a day! whilst the numerous and often rash operations for which the school of Vienna is notorious, must very much increase the gross mortality.

Although we can by no means agree with a recent reviewer of homœopathy in the rôle which he thinks that system is likely to play in the reformation of medical practice, we do think that, like all forms of quackery which have provoked discussion, and aroused men from the lethargy produced by an over-reverence for authority, homœopathy will do some good by leading all to place less dependance on their own skill and more on the efforts of nature. When studying in Paris, we had an opportunity of witnessing, in M. Magendie's wards at the Hotel Dieu, the powerful influence on disease of mere hygienic conditions. We have seen pneumonias and other acute inflammations brought to a successful issue by attention only to temperature, hygrometric state, diet, and rest. Still, however, we believe every one but the distinguished physiologist himself was convinced that the fatal cases were much more numerous with him than with his colleague, M. Chomel. In a communication respecting typhus and typhoid fevers which appeared in the last volume of this Journal, we have given some remarkable instances of well-established differences from treatment, but really no one who has had much experience in hospitals or in practice generally, can for a mo-

ment doubt the fact, and we would not have alluded to it but for some incautious expressions made use of by an able reviewer before referred to (a). The dietetic regulations of homœopaths ought to do a great deal. We have before us those followed at the Edinburgh Dispensary, and at the homœopathic hospitals at Vienna and Leipzig, as well as several others used by Dr. Drysdale, &c., and we consider them excellent, but have not room to quote.

So far from finding any difficulty in getting rid of homœopathic cures, we only feel unmingled surprise that men of talent should not have been able to make out a better case. For ages together, scrofula was cured by the mere touch of royalty, touching for the "king's evil" being so much in vogue in Charles the Second's reign, that that monarch is said to have cured no less than 92,107 scrofulous persons (an enormously greater statistical induction than any we have seen put forth by homœopaths). Wiseman, a practitioner of undoubted abilities, was sergeant-surgeon at the time, and his chief duty seems to have been, as we glean from his writings (like many homœopathic physicians of our own day), to select cases, in a fair way to recovery, for the exercise of the royal prerogative. Such were the notions entertained on the subject in 1684, that one Thomas Rosewell was *found guilty of high treason* for having doubted the efficacy of the king's touch for the cure of disease. This foolish superstition was only laid aside when that sensible Dutchman, King William, refused to countenance it (b). The practice of touching for disease has given a certain degree of notoriety to a countryman of our own of the name of Greatbreaks, who got a fixed prepossession "that God had given him the blessing of curing the king's evil;" and so effectual was his practice, that patients came to Ireland from all parts of Europe, in order to be cured of their diseases, by his simple touch. It is but

(a) In Dr. Forbes' *Homœopathy, Allopathy, and Young Physic*, to which allusion has been made, we are astonished to see so much importance attached to M. Louis' "*Recherches sur les Effets de la Saignée*." If a physician were to treat all the patients in a general hospital indiscriminately with opium, would we wonder at his deciding against the use of that remedy? yet this means of testing its efficacy is precisely analogous to the mode of determining the value of bleeding in pneumonia adopted by Louis. Many cases of inflammation of the lungs require wine instead of bloodletting (and get it in the Dublin hospitals); and hence the indiscriminate bleedings of M. Louis only determined, that in general there is a *larger number of cases of inflammation of the lungs to which bleeding is inapplicable* than the converse, but it gives us no information as to a *therapeutic law*. It is astonishing to find two such acute men becoming for the time complete *Realists*.

(b) It was again revived during Anne's reign, but abandoned for ever on the accession of Geo. I.

necessary to mention that the London Royal Society fully admitted the truth of his pretensions, and that even Boyle and Cadworth were his supporters, to shew that this was no mere vulgar superstition, as stated in the preface to this number of our Journal. Magnetic rings are as old as the Plantagenets, and are still in vogue. Another variety of the magnetic delusion was *Perkinism*. An American of the name of Perkins invented what he called "metallic tractors" (two of which are in our possession at present) for the cure of disease by magnetic agency. The effects produced, in America, by this discovery, were really marvellous, and the doctrine was introduced into Europe under far more splendid auspices than homeopathy has even yet to boast of, being attested by "eight professors, nineteen ordinary physicians, seventeen surgeons, and twenty clergymen, of whom ten are doctors in divinity, and many others of equal respectability." In Europe, the new notion spread like wild-fire: there was no remedy but magnetism, no means of applying it but Perkins' metallic tractors. Unfortunately for the nostrum-venders, at Bath, which was then the head quarters of Perkinism and *malades imaginaires*, two shrewd practitioners, Drs. Haygarth and Falconer, resolved to submit the new doctrines to some tests which they had devised. Having fashioned several pieces of wood into the form of the tractors, they coloured them so as to resemble the originals as closely as possible, and then publicly instituting a series of experiments, ostensibly to determine the value of the tractors, the cures were wrought by the wooden representatives as quickly as when the real tractors were employed. The result of this exposure was, that but one cure was announced as having resulted from magnetism during the following year, and very shortly after Perkinism peaceably expired. In the same class must be placed those cures by such men as the notorious Bernard Cavanagh, who, a few years ago, exhibited his miraculous powers in the theatre in Brunswick-street, in this city, patronized by many persons, who ought to have known better than to countenance such absurdity. Nothing could be more ridiculous than to see lame, blind, halt, and maimed attempting to make themselves and others believe that they had been cured, or at least relieved, and their efforts were generally completely successful. We shall allude but to one more instance of cure by imagination alone. In the vicinity of the town of Lisburn we knew of a person who *actually cured* many cases of epilepsy, without even pretending to give any medicine. In one instance that we had occasion to know of, the only means employed were giving injunctions to the individual, *never to*

enter a grave-yard. The fits disappeared for several years, until, happening to attend a funeral at which the writer's father was also present, the former epileptic only remembered the prohibition to which he had been subjected when a few steps inside the boundaries of the forbidden ground, and no sooner was he aware of what he had done than he fell violently convulsed and foaming at the mouth. He continued subject to epilepsy for the remainder of his life.

There is another class of cures, by the influence of imagination, in which medicine is actually given, and we shall allude to some remarkable instances. During the siege of Breda, in 1625, the troops of the Prince of Orange being terribly afflicted with scurvy, and no medicine procurable, a few drops of coloured water were served out to each man, and very numerous cures were speedily effected. Bishop Berkeley, who could not satisfactorily prove to himself that he had a body, or that there was a material world, was so convinced of the efficacy of tar-water, as a panacea, that he says, "if I had a situation high enough, and a voice loud enough, I would say to all the valetudinarians upon earth, *drink tar-water.*" His ideas obtained such currency at the time, that a national remuneration of his discovery by Parliament was talked of; and tar was so much employed, that its price actually rose in the market. Somewhat later, a Mrs. Stephens invented a cure for the stone, long since forgotten, which took so well amongst all classes that £5000 was voted to her by Parliament. For a time, plain mustard seed was by the great in England looked on as a panacea, and carriages literally blocked up the streets where it was sold, so that it could only be obtained by patience and perseverance. Morrison's Pills were very recently in such vogue that several thousands per annum were paid to the Government for stamps alone, whilst journals and works on the subject poured forth in abundance. We knew a Baillie of Glasgow, who, by Morrison's own directions, took two hundred and fifty pills per day, for a considerable time—the curious point being that the individual was all the time in perfect health: and M. Trousseau tells us of a man who, having taken up quackery, gave distilled water as the most harmless dose, but he soon received so many letters attesting the cures he had effected, that he died in the firm belief of the universal efficacy of *Seine* water.

The last of our division of quacks is the external-application quack; and here we might give many amusing particulars about "champooing" rectum doctors, *et hoc genus omne*, from works which now lie around us, such as

"Vallance on the Virtues of Brandy and Salt," and "Discoveries in the Science and Art of Healing, &c., by J. St. John Long, Esq., M. R. S. L., M. R. A. S., &c." (an 8vo. volume of 320 pages), but we forbear. Long was a painter at Cork, who took up doctoring on his own authority, settled in London, took a fine house, and, maintaining the same doctrines as Hahnemann as to a morbid matter (only he did not name his "fundamental cause an internal psora"), soon got abundance of patients. Hahnemann rejected all applications externally, and Long *used none else*; yet the latter on his trial was able to produce a long list of nobility, lawyers, &c., who were his patients and patrons, and one of them, Lord Ingestrie, swore that he saw St. J. Long draw several pounds of a liquid like mercury from a patient's brain. Long died of the disease which he lived by curing, and the virtues of his remedy expired with him. He sold his secret to a lady of rank in this country, for £3000. but after various unavailing trials in her hands, it was soon forgotten.

For ourselves we confess that we look on the origin of homœopathy as partly owing to the present state of pharmacy in these countries, partly to the tendencies of medical education in the country that gave it birth. The modern French school to which we, in Ireland at least, feel so deep a debt of gratitude, for having pointed out and accompanied us in the true path of medical induction, has ever taken for its motto the admirable sentiment of Descartes. "*Nous devons préférer la connaissance de quelque peu de vérités à la vanité de paraître n'ignorer rien.*" The young German school owns no insuperable difficulties, removing every obstacle by merely conferring on it a *name*. The characteristic tendencies of the two schools was very well shewn in the avidity with which German chemists adopted the notion of a catalytic force, whilst that ingenious cloak for our ignorance has been steadily rejected by the chemists of France. For centuries British practitioners have been regarded as too exclusively practical, but the tendency to *mysticism* and metaphysical subtleties, which, for an equal length of time, has been characteristic of the countries beyond the Rhine, has come upon us in a flood with its unmanageable terminology and undemonstrable causes(*a*); but, unfortunately, leaving at home that profound

(*a*) Is not the Psora of Hahnemann as good a name as the Fermentation of Liebig or the Typhous Process of Rokitsanski? Some of the very best specimens, however, of the modern Cabbala, are afforded by the works of Professor Schönlein, recently published, and the observations on magnetism by Baron Von Reichenbach, analyzed in this number.

learning and laborious industry, which, in its native land, rendered even error respectable. But there is another fruitful source of quackery peculiarly our own, viz., the present state of pharmacy in Great Britain. When the physician and pharmacien are identified it soon necessarily results that, from the frailty of human nature, which always more or less becomes evident in circumstances of temptation, the practitioner, seeing it his interest to give the patient some apparent *worth for his money*, is led to prescribe bottles, pills, and powders, to an amount that, under other circumstances, would never have been thought of. Thus in England we find the window of every farm-house filled with the reliques of former medication, and so strongly has the public mind become impressed with the necessity of taking drugs, that most persons have something of the kind which they swallow at stated periods; when, therefore, a physician is called to treat a case of real disease, if he visit several times without giving a dose, the patient conceives himself ill-used, and his medical attendant is at once dismissed. In Ireland this evil is much less in amount, and in France it has scarce an existence; hence in the latter country the physician is not forced to be always busy, as if nature could do nothing without his interference, and the result has been that the non-professional English traveller, as well as the mere routine practitioner, have always been loud in their condemnation of the “inertness of French practice,” although that practice, omitting elegant *placebos*, differs in nothing from that of sound practitioners at home. This over-medication has undoubtedly furnished good ground for many of the attacks of homœopaths, still we are convinced that only evil can result from the prevalence of the idea that the science of medicine has to be formed *de novo*. Medicine is a tree of very slow growth; and Young Physic, if it ever germinate at all, cannot possibly be expected to bear any fruit, ’till our children and our children’s children shall have been gathered to their fathers. “With thirty or forty observations you may establish the diagnosis and pathological anatomy of a disease, but years of research are necessary to establish a satisfactory result in therapeutics”(a). Whilst, then, with boldness and perseverance

(a) *Andral in Principes Généraux de Statistique Médicale*. Par Jules Gavarret. Paris, 1840. In the same excellent work M. Arago is quoted as remarking on the problem, “Does the moon exercise any influence on our atmosphere?” that a question so complicated cannot at the present day be resolved by simple theoretical considerations. *Long series of exact observations methodically combined*, can alone lead us to hope for satisfactory results worthy to have a place in positive meteorology. Unfortunately,

we enter at once on the work of reform, pruning what is exuberant, and removing what is hurtful, let us not, because we observe a few faded leaves, or a few decayed branches, either ourselves lay the axe to the root of the tree, or by incautious expressions liable to be misunderstood or wilfully misapplied, encourage others to root up what required the lapse of ages and the united labours of many men as acute and as disinterested as any that the world has produced, to bring to its present state of maturity and high utility.

As to the treatment of quacks and medical impostors the experience of all countries has shewn that opinion is a something beyond the power of a government to coerce or control; and it is most fortunate that it is so; for men are better judges of their own interest than either kings or colleges. In England in 1648, Rosewell was found guilty of high treason for doubting the efficacy of the king's touch in the cure of disease; and about nine years after, Dr. Groenvelt was, by a warrant of the College of Physicians, committed to Newgate, for administering cantharides internally, whilst who does not know that the parliament of Paris, which in 1566 prohibited the use of antimony as a medicine, in 1720 purchased the secret of making kermes mineral. We have before alluded to the analogous case of the present Austrian government; it is then with but little reason that we hear medical men rejoicing in the condemnation of a quack for manslaughter, because he transgressed the established rules of art in some particular. *If a jury of persons who have never thought deeply on the subject of disease, whether consisting of butchers and bakers, or of fox-hunters and Members of Parliament, are to decide on the nature of remedies, Hippocrates is quite as likely to be condemned as Priesnitz or Hahnemann;* and we should like to know on what principle of consistency it is perfectly legal for a man to kill himself by a bottle of brandy, a steep-chase, or a hunt, but not by a quack consultation.

Let medical men only make themselves well and practically acquainted with their profession, and if they act uprightly and honourably, and, above all, perseveringly, they have nothing to fear from quacks.

labours of this kind are *few in number*, and embrace but short periods of time." "And yet," continues M. Gavarret, "the illustrious academician who complained of the little material he had to work with, tells us farther on that he was supported by the results obtained in Germany by M. Schuller, in twenty-eight years of observation, and in France, by M. Flangergue, in twenty years." How much more difficult to appreciate the causes of disease; yet some are almost inclined to abandon medicine because it is uncertain!

The Potato Disease ; its Origin, Nature, and Prevention ; with a Chemical and Microscopical Analysis of the sound and diseased Tubers. By G. PHILLIPS, of the Excise, and Member of the London Chemical Society. London: S. Highley.

As this pamphlet contains nothing new but what is erroneous, and is replete with mis-statements as to the discoveries of others, we should not have noticed it had it not been for the importance of the subject upon which it professes to treat.

The diseases of vegetables have never been sufficiently studied, although of great interest both to the physiologist and pathologist, inasmuch as they display processes of morbid action in organisms much more simple than those of animals. In the lesions of plants the nutritive function can be the only one disordered, and the share which nervous influence has in the production of structural alterations can be best studied by a comparison with beings destitute of the function of relation. Vegetable epidemics are peculiarly interesting, because they may be productive of light by which pathologists may examine similar affections, at present so obscure, in the animal kingdom. We, therefore, think that it may not be unprofitable to enter, for a short time, into a consideration of the potato disease recently so prevalent.

In the descriptions which have been published of the appearances presented by the diseased potatoes there have been much discrepancy and confusion. Two things, totally distinct in their nature, although commonly standing in the relation of cause and effect, have been mixed in this investigation. You cut across a potato and find it black, spongy, watery, and fœtid; is this the disease? No, this is only the ultimate result. As well might you call the gangrene which ensues from arteritis a disease. The condition of the vegetable that we have alluded to is a true gangrene. Death of the membranes has taken place; the juices, which are the analogues of the blood, have come under uncontrolled chemical dominion; putrefaction of the various elements is in operation. But these are all merely effects; it is the proximate cause of these effects which constitutes the disease; and to the consideration of that part of the question we shall now apply ourselves.

In the innumerable dissertations which have appeared on the potato disease, the consideration of causes has by no means been neglected. Meteorological phenomena have constituted the principal and favourite reservoir from whence

have been selected these hypothetical explanations. A disease, which has, nearly at the same time, spread over every part of Europe—the extreme north of Russia, the fens of Holland, and the sunny declivities of the Pyrenees—has been ascribed to certain peculiarities of temperature, to a more than usual wetness of the summer, or to an extraordinary excitation of atmospherical electricity. It has even been attempted to point out the particular night in which a sudden fall of the thermometer, only observed in a limited locality, produced this extensive disease. The statement of the proposition renders an elaborate confutation unnecessary. Moreover, skilful meteorologists affirm that there has been less rain during the last summer than what occurred during the preceding; and with respect to electricity, never was there a year in which we had fewer thunder storms, although it has been gravely adduced in argument, that on a certain night unknown peasants, in the County of Louth, saw lightning in the direction of the sea!

But meteorological causes are not the sole ones to which the potato disease has been attributed. It has been declared that the plants of the present generation, being merely subdivisions obtained by cuttings from a few individuals originally raised from seed, old age has at length seized on the potatoes, and that their epoch of decrepitude has manifested itself in last year's failure. But this mode of reasoning is based upon a very deficient acquaintance with the first principles of vegetable physiology. It is a mere play on words, to say that reproduction by buds is only an extension of the same individual. This mistake arises from ignorance of that which constitutes vegetable identity. A plant is not an individual, but is truly a community. As well might we say that the innumerable corallines, which, by their combined operations build up a reef in the Pacific, constitute a single animal, because each polypus is developed from a bud in place of an ovum, and remains attached through life to its parent, unless accidentally separated. Each bud is really an embryo, and, whether developed on the parent plant, or nourished by the soil in independent separation, equally constitutes a distinct individual, and although we by no means wish to deny the mortality of species as well as of individuals, the question is plainly one unconnected with the present subject.

We cannot, therefore, admit that any of the causes to which the potato disease has been attributed are capable of explaining its prevalence in so many different countries, and under such a variety of external conditions. But if we even

suppose, for argument's sake, that cold, moisture, electricity, or senility, separately or combined, produced this epidemic, it is plain that we do not thereby gain any insight into the nature of the disease. These various circumstances may be what pathologists call exciting, or predisposing causes of the disease, but they cannot be regarded as the disease itself. And thus we are led to seek for a something intermediate between the black rottenness, which is the ultimate result, and whatever may be the external and exciting cause; an unusual condition of the vital manifestations and organization of the vegetable structure; and if we are enabled to detect this, we may then congratulate ourselves on having discovered something positive:—the disease, that aberration of dynamic life, and alteration of molecular arrangement, which, itself the effect of some injurious external influence, may, like the lesions of animals, terminate in resolution, or in death and putrefaction.

The following are the peculiar appearances which have been observed in the potatoes of this year's crop. Besides the black rottenness already alluded to, and which is usually better marked in the wood than in the bark, and sometimes has no connexion with the surface, there is an appearance constantly present, and which is always the more evident the nearer to the cuticle. This appearance presents itself to the naked eye under the form of a brown dotting, and, when examined by a lens, is found to be owing to a brownish, resinous-looking matter lining the cells of the parenchyma, and particularly accumulated at the angles of these cells.

Some observers consider this brownish appearance as an incipient stage of the ultimate black rottenness. We do not think so; firstly, because this brown speckling seldom extends more than half an inch from the surface, while the black putrefaction often affects the whole mass of the potato. Secondly, because the brown deposition is always found at the surface, and the black rottenness most generally in the interior of the tuber. Thirdly, because we could never observe any new deposition in the cells of the rotten part. The change in colour which the extraction of the potato undergoes by exposure to the air, and which has been alluded to by some as analogous to this alteration from disease, is never accompanied by any deposit lining the cells. We are thus led to conclude that this brown resinous deposit is a thing perfectly distinct from the ultimate black putrefaction.

Another question is, does this brown, resinous-looking matter proceed from an alteration in the natural constituents

of the potato, or is it a something derived from without, which has been absorbed by the cells, and deposited upon their interior lining? Those who look on it as an incipient stage of rottenness of course adopt the first explanation, while those who consider the disease to depend, like the blight in wheat, on the absorption of the spores of a fungus, choose the latter. We believe truth lies between the extreme opinions. The fact of this substance being found within the cells, and not in the inter-cellular passages, demonstrates that it arises from an alteration of materials previously existing in those cells. But we cannot suppose such a change to have occurred spontaneously, and in this, as in every other instance of disease, we must seek for a cause in the operation of some external influence.

There is an evident relation between this brown deposition and the ultimate putrefaction which the tuber undergoes. Whenever we find the interior of a potato in a state of black rottenness, we always may discover some part of the bark more or less the seat of the brown dotting which we have described. Frequently we find the latter appearance without any part of the tuber having passed into the state of black putrefaction; so that, considering the relative extension of these phenomena, we are justified in regarding them as connected in the relation of cause and effect. This being admitted, we may now feel satisfied in having at length reached the point which we wish to investigate. We have alighted on the disease,—the intermediate thing for which we sought; at once the effect of some external agency, and the cause of death and rottenness.

Having ascertained what the disease is, our investigations must become directed in two opposite paths: first, to determine what is the cause which has produced this lesion; secondly, in what manner it produces its ultimate results.

The cause of this brown deposition evidently acts from without, for the appearance which betrays it always presents itself primarily at the surface. It has been stated by several observers, that the disease first occurs at the junction of the pedicle with the tuber: we have particularly studied this point, and feel satisfied that the disease may commence indiscriminately at any portion of the surface. The most usual superficial appearance is that of an excavation or ulcer, coated internally with a brownish grumous matter; but we have satisfied ourselves that, previously to its assuming this ulcerated appearance, it exists under the form of a blister, produced by the separation of the cuticle from the bark, by a brownish

granular matter interposed. We have found similar appearances on the surface of the superterranean stem. We even think that the disease can be traced to an earlier stage, in which it exists under the appearance of a yellowish or black dot, immediately beneath the cuticle; and all observers agree, that the first thing that attracted attention to the potato crop this season, was the occurrence of black spots upon the leaves; which organs soon afterwards withered. Now, taking all these circumstances into consideration, we confess we do not see how the induction can be avoided, that the disease has been produced by a fungus. A state of predisposition may have been produced by unknown atmospherical influences; but that fungi may attack and destroy plants to all appearance perfectly healthy, is proved by the cankerbrand in wheat.

An experiment which we made some time since, has satisfied us that the disease is really caused by the brown, grumous matter, lining the superficial ulcer, and contained within the external blisters. We strewed some of this matter on the fresh section of a healthy tuber, and allowed it to remain in contact for twenty-four hours; we then washed it off, as well as the loose grains of starch, with water, when the membrane of the cells was found thickened and wrinkled, the cells contracted, and with bundles of minute spherical bodies aggregated on, and adherent to their internal lining, the latter bodies evidently derived from a transformation of the starch globules. No such appearances could be observed upon the other portion of the section, which had been equally exposed to the air. So that this experiment is calculated to shew us that the contact of this brown matter will produce a morbid alteration in the cells, and in the starch globules.

The brownish, resinous substance which lines the cells in the diseased part of the tuber, is manifestly a different thing from the brown, grumous looking-matter contained in the external blisters. The starch globules have also nearly disappeared in the diseased part; and bundles of minute spherical bodies, apparently consisting of aggregations of dwindled starch globules, and in different places adherent to the internal parietes of the cells. These are exactly similar to the masses described in the former experiment; and the observation of these facts seems to shew that the brownish, resinous-looking coating of the cells so frequently alluded to, is principally produced by a degeneration of the starch globules.

Little or no deficiency of starch globules can be perceived in the black and rotten portion of the potato. This is ano-

ther proof that the brown and black parts are not different degrees of the same alteration.

We have now to investigate in what manner the disease produces that condition of black putrefaction which is its ultimate result. When we examine the brown, speckled, and diseased portion of the bark, we perceive it to be much more spongy and loose in its texture than the remainder of the tuber: when pressed, it yields under the thumb, and an unusual quantity of moisture exudes. Now some observers have been led, from the observation of this fact, to conclude that an imperfect formation of the cells, and an excess of moisture, are the causes of the disease. But if this were the case, we should find every part of the bark of the diseased potato equally affected, whereas we only perceive this spongy watery condition in the portion which is the seat of the brown deposition. In fact the immediate effects of the disease are disruption and disorganization of the cortical cells, which then, like a sponge, absorb moisture from the soil. The porous state of the parenchyma stands related to the disease, just as ramolissement is to acute inflammation.

But this state of the bark brings the whole interior of the tuber under an extraordinary subjection to physical agencies. Air, moisture, all the powers of organic decomposition, easily permeate to the very centre of these subterranean reservoirs. The feeble vitality of the vegetable is unable to cope with these chemical adversaries. Affinity supplants nutrition: and rapid putrefaction is the result. The nitrogenized elements first yield; the fermentation then becomes general amongst all the constituents, until the mass becomes reduced to one of black and fœtid rottenness.

We have thought that it might be useful to trace the characters of this remarkable epidemic. Its history is pregnant with numerous and important truths. The contemplation of this disease may give origin to many and profound speculations on the origin and nature of disease; and may lead to a more careful study of a branch of science hitherto too much neglected—that of comparative pathology.

For the morbid action produced on the human body by diseased potatoes, we refer our readers to Dr. Banks's valuable report in our practical retrospect.

PART III.

REPORTS, RETROSPECTS, AND SCIENTIFIC INTELLIGENCE.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN,

CLASSIFIED AND CHRONOLOGICALLY ARRANGED.

THE OSSEOUS SYSTEM.

1. *Chronic rheumatic Arthritis of the Bones of the Tarsus*.—Mr. Robert W. Smith presented a series of specimens, illustrating the effects of chronic rheumatism upon the bones and articulations of the tarsus; more especially the astragalus and the navicular bone; with regard to the former, the alteration was similar in all the specimens (three in number), and confined to the head and the neck of the bone: in all a process of bone had sprung up from the anterior part of the neck, rising above the level of the upper articulating surface of the bone in one specimen; the anterior surface of this new growth was in all continuous with, and formed a part of the articulating surface of the head of the astragalus, producing in the latter various alterations of form and convexity; in one specimen the head of the astragalus was an oval, whose long axis was transverse, while in another the surface for articulation with the navicular bone (increased to double its natural size) had its long diameter directed vertically; in the former the cartilage had been removed and an ivory deposit formed, which was marked with grooves and furrows placed transversely: the navicular bone in each specimen had undergone changes exactly corresponding with those which took place in the astragalus; in some of the specimens the disease was commencing in the calcaneo-cuboid articulation, but in none of them was the ankle joint affected. Mr. Smith remarked that this was the first time that examples of chronic rheumatic arthritis of the tarsal bones had been exhibited before the Society, nor was he aware that the disease had been described before.—22nd April, 1842.

2. *Fracture of the Base of the Scapula*.—Mr. R. W. Smith produced to the Society an example of fracture of the base of the scapula, a very rare form of fracture. The body from which it was taken was that of a man who had been employed sawing off some large

boughs from a lofty tree; he inadvertently sawed through one of those on which he was seated, cutting between himself and the tree, and when it gave way, he was precipitated to the ground a height of about thirty feet. He was brought into the Richmond Hospital. The five superior ribs of one side were broken. The first was fractured close to its head, the other four at their angles. Pleuritis and pneumonia ensued, and proved fatal in a few days.—(*Museum, Richmond Hospital.*)—11th February, 1843.

3. *Fracture of the Skull extending to its Base; Extravasation of Blood compressing the brain; Softening of the cerebral Substance.*—Mr. Hamilton presented the recent parts in this case. On last Thursday he was called to see a child who had accidentally fallen over the banisters; the height from which it fell was twelve feet, and it came down on its head upon a flagged flooring. In five minutes after the injury coma and stertorous breathing set in; the pulse was 60 and labouring; the pupils were *contracted*; the head appeared mis-shapen by a diffused bloody tumour on the left side; on the right side of the forehead a projecting ridge of bone could be felt, and there was an obscure feel of fracture. The surface of the body was generally cold; at night a bloody froth proceeded from the mouth; the coma continued, notwithstanding the bleeding, after reaction had commenced; the pulse in the evening was 160, the surface hot, and the coma was present as in the morning. During the day the child had sat up and had vomited; the matters thrown up from the stomach were mixed with blood; on the following morning the pulse was 160, the coma continued, and there were convulsions, but not violent; the right arm was stretched out, flexed, and rotated during the fits; the bowels had been opened during the night by enemata. On the next evening the pulse was 172, the respirations 84 in the minute; the convulsions had been more frequent, both sides were affected, and both arms moved convulsively. It was then determined to cut down upon the forehead, at the seat of the fracture; this was done by a semi-circular incision, and the bone was found to have been fractured, the edges of the fracture overlapping, and the inferior edge pressing on the brain; there were several fragments of bone, two of which were so loose that they were easily removed, the dura mater readily separated from them, and then there was considerable hæmorrhage from the wound; the blood welled up at each inspiration; no opening could be perceived in the dura mater. The patient died on the next morning, forty hours after the accident. After death the head was carefully examined; over the whole of its left side there was blood extravasated under the scalp and pericranium, partly fluid, partly coagulated; after removing the pericranium, a prodigious fracture of the skull was disclosed, extending from before the left ear, completely across the head, to the place on the right side where the loose fractured pieces of bone had been removed; this fracture was found to extend on each side to the sella turcica, and a portion of the ala major of the sphenoid had been detached. Some coagulated blood was found between the bone and the dura mater; this extravasation existed in some parts on both aspects of the dura

mater. At the base of the brain there was a considerable effusion of blood. The surface of the brain itself was redder than usual; the pia mater was injected. The substance of the brain was of a dusky brown colour, and had been softened wherever there was blood effused.—18th March, 1843.

4. *Malignant Disease of the lower Third of the Femur.*—Mr. O'Ferrall said it might be recollected that he had produced at the last meeting, a specimen of malignant disease, affecting the upper third of the femur. He had now to present a specimen of fungoid disease of the femur in an early stage. The subject in the present case was a lady, twenty-one years of age; her knee had become painful, enlarged, and puffy: the disease was considered to be white swelling, the ordinary treatment for which was adopted, and failed to give any relief; the malignant character of the disease was then suspected. The ham was now filled with the tumour; the lower third of the femur was evidently the seat of the disease. The countenance of the patient had not the sallow colour, so usual in malignant disease. Amputation was proposed, as the only remedy that gave a chance to the patient; it was performed, but little relief from pain followed the operation. In a week afterwards a fungous growth proceeded from the stump, from which there were frequent hamorrhages; a fungoid tumour was observed to be developing itself in the groin, and under Poupart's ligament. The patient gradually sunk. On examining the affected parts after death, the cancellated structure of the femur was found infiltrated with a peculiar lardaceous matter, which also extended into the medullary canal. The shaft, to the extent of four or five inches above the condyles, was greatly thickened; but the disease extended much higher up in the interior. This disease Mr. O'Ferrall believed to have originated in the bone itself. Great difficulty attended the diagnosis: in the early stages it exactly resembled white swelling; the pain was excruciating, the swelling puffy. The diagnosis might be aided by observing the want of correspondence between the tibia and the femur, but this would not be available when the part of the bone affected is higher up than in the present case. Mr. O'Ferrall here exhibited a large coloured drawing of a case in which there was necrosis of the femur of one side, and of the tibia of the opposite, which resembled morbus coxæ in its symptoms. The diagnosis was founded on the principles to which he had alluded at a former meeting during this session [*vide* Proceedings of 25th March, 1843], and for an account of which he might also refer to what had been published of his observations in the Philadelphia Journal four years ago. In connexion with this subject, he would mention that there were several other forms of disease affecting the upper third of the femur, which simulate morbus coxæ, and are very difficult to distinguish correctly: (a) of these the first he would mention was osteitis, either ending in necrosis, or in hyperostosis without the formation of abscess; (b) periostitis; (c) abscesses about the hip joint. The first of these is distinguished by the limb being bent on the pelvis in the early periods. Motion is not painful while the patient is in the recum-

bent posture; the head of the femur moves freely in the acetabulum without moving the pelvis, the contrary of which occurs in morbus coxae. In osteitis of the upper third of the femur the pelvis is at rest while the limb is abducted, adducted, or otherwise moved; but in morbus coxae the pelvis itself moves on the head of the unaffected limb, and for this reason no pain is complained of when the surgeon rotates the limb which is affected.—25th March, 1843.

5. *Fracture traversing the anatomical Neck of the Humerus; Head of the Bone reversed and driven into the cancellated Tissue between the Tuberosities; Fracture thorough the Tuberosities.*—Mr. Robert W. Smith, laid before the Society a very remarkable specimen of injury of the shoulder joint removed from the body of a woman, aged forty, who many years previous to her decease, had fallen with great violence upon her shoulder; the external characters of the injury resembled those of luxation into the axilla, the acromion being prominent, and the shoulder flattened; but it differed from the luxation, in the circumstance of the arm being shortened; the motion of the joint was impaired, and the muscles wasted; it could not be ascertained whether the woman had applied for surgical assistance at the time of the occurrence of the accident or not; the lesion of the bone, discovered by post mortem examination, was exceedingly curious; the head of the humerus had been separated from the shaft, by a fracture which traversed the anatomical neck of the humerus, it was then reversed in the articulation, so that the fractured surface was directed upwards towards the glenoid cavity, and the cartilaginous articulating surface was thrown downwards towards the shaft, and having assumed this position, was driven to a considerable distance into the cancellated structure of the upper extremity of the shaft, between the tuberosities. From this violent impaction of the head of the bone into the lower fragment, a second fracture resulted, which split off the lesser tubercle, the anterior part of the greater, and a small portion of the shaft of the humerus corresponding to the upper part of the bicipital groove; the broken surface of the upper fragment, which, having thus become the superior surface, was in contact with the glenoid cavity, presented an oval form (the long axis of which was directed transversely), and a very deep concavity, the outer half of which corresponded to the glenoid cavity, while the inner was applied against a new articulating surface of a convex form, developed upon the axillary surface of the scapula, immediately internal, and posterior to the glenoid cavity, and below the root of the coracoid process; the median line between these two portions corresponded of course to the rounded edge which separated the glenoid cavity from the abnormal portion of the articulation just described, and which occupied the position in which the head of the humerus is found in the ordinary case of luxation into the axilla. It thus appears that the head of the humerus had been somewhat displaced inward, though it was still contained within the natural capsule of the joint; the shaft was drawn upwards, close to the coracoid process; from this twofold displacement resulted the flattening of the shoulder, the prominent acromion, and the shortening of the arm. The entire of the car-

tilaginous surface of the head of the bone was not buried in the cancellated tissue of the shaft: the inner half of it was free and directed downwards, forwards, and inwards. The outer half was impacted to a depth of nearly an inch; and here was manifested in a striking manner, the unwillingness of cartilage to unite with bone. The cartilage remained perfect, but was not united to the cancellated tissue of the tuberosities, between which and the convex outline of the head of the bone, the blade of a scalpel could be readily introduced; the remaining portion of the upper fragment, beyond the limits of the cartilage, was intimately and firmly united with the tuberosities, the greater of which contributed to the formation of the concave surface, which has been described as being in contact with the normal glenoid cavity of the scapula; the union of the broken portion of the tuberosities themselves was complete. Mr. Smith remarked, that the two features of most interest, connected with the specimen, were the impaction of the upper fragment into the lower, and secondly, the revolution upon its axis, which the head of the bone had undergone. With respect to the former, Mr. Smith alluded to a specimen of impacted fracture of the neck of the humerus, which he had exhibited to the Society upon another occasion; in both instances, one or other of the tuberosities were split off: so far the injury was analogous to the *extra-capsular* impacted fracture of the neck of the femur, the constant coexistence of which with fracture traversing some part of the intertrochanteric space, Mr. Smith conceived he had established(*a*). But here the analogy ceased; for it was scarcely possible to conceive that the head of the femur, when broken from the cervix, could undergo any such revolution, being maintained in its place by the ligamentum teres; but when a fracture traverses the anatomical neck of the humerus, the head of the bone is not restrained by any such ligamentary apparatus; it becomes as it were, a foreign body in the articulation, free, within a large and loose capsule, and ready to obey any impulse that may be communicated to it from without.—20th April, 1843.

6. *Caries of the Atlas*.—Doctor Lees presented a specimen of disease of the cervical vertebræ, the progress of which had been very insidious. The subject of it, a woman aged 75, about six months ago had an epileptic fit during the night; this had been preceded by sudden screaming. On the next morning it was observed that she was speechless, and her right arm and leg were paralysed; under treatment she recovered the power of speech, and in part that of motion; however, the head remained slightly turned to the left. Three months ago she gradually lost the use first of the arm and then of the leg, which had been previously affected; she had no difficulty of swallowing, but suffered thirst and extreme debility; her pulse was 120; there was little alteration in her state until the 13th of December, when she died. She was observed to sigh or gasp a few times, and died without a struggle. On opening the skull, the brain appeared healthy, both

(*a*) Dublin Journal, vol. xviii.

on its surface and internally when cut into. But in dividing the medulla oblongata some difficulty was experienced from a projection of the odontoid process. The medulla was here compressed, the ligaments were completely destroyed: there was no deposition of matter, nor was there any effusion into the spinal canal. The right half of the atlas was carious, and there was a lateral displacement of the bone: the inferior articulating surface of the atlas rests on the side of the body of the vertebra beneath it, and the spinal canal is by the luxation left free in but a fourth of its diameter in this situation. Of this disease of the cervical vertebræ a good description has been given by Professor Rust, of Vienna, in the *Salzburgh Medical Journal*, and at greater length in his work on diseases of the joints.—16th December, 1843.

7. *Contraction of the Parietes of the Thorax succeeding to Pleuritis.*—Doctor Corrigan presented casts representing two cases of a disease of rare occurrence, empyema attended by contraction of the side, which has usually been considered to be a natural process of cure. Two cases have been described by Dr. Stokes; of the two now produced, one has the contraction on the right side of the chest, the other on the left. One of these casts was made from a patient who died in the Whitworth Hospital soon after admission; he had been six weeks ill of pleuritis; lymph and purulent matter were contained in the pleura. Dr. Corrigan had observed, that in these cases the contraction goes on from below upwards as well as inwards. Dr. Stokes had also made the same observation. The safety of the operation for empyema is affected by this circumstance. In the present case, if the operation had been performed, the great curvature of the stomach would have been wounded. The case of a boy has been described who had received a wound in the chest, in consequence of which inflammation and effusion supervened, for which the operation was performed, in doing which the kidney was wounded. As to the prognosis of these cases, he would remark, that if the constitutional symptoms indicating recovery do not proceed *pari passu* with the contraction of the parietes of the thorax, there is considerable danger. It also frequently happens that phthisis is simulated so closely, that the operation for empyema is not thought of. In the compressed and condensed lung there is crepitus, and the constitution is affected by hectic.—23rd December, 1843.

8. *Necrosis.*—Dr. Hutton presented a recent specimen of central necrosis of the tibia. The case was one of acute osteitis followed by necrosis of the internal cancelli of the bone. The subject was a man aged 23, a servant, admitted into the Richmond Hospital on the 29th of January, 1844. He had hurt his leg above the ankle four years ago. A troublesome ulceration ensued, attended with exfoliations of several splinters of bone. In last December, a week before Christmas, he sprained the ankle of the same limb, but, instead of giving it rest, he walked about on it, the result of which was, that not only the ankle joint, but the entire of the leg, became swollen, tense, and excessively painful. He was admitted into the Meath Hospital, where he

remained three days, but left when amputation, which he then refused to submit to, was declared to be necessary. The limb was amputated yesterday in the Richmond Hospital. Previous to the operation the pain had been very severe. The inflammation resisted all the means adopted for mitigating it. There was an ulcer with a fistulous opening leading to the bone. There were patches of sphacelus on the surface of the leg, and fever, with delirium, had set in. No other means but amputation remained for saving the patient's life. It was asserted that the same limb had also been fractured during infancy. In examining the amputated limb it was observed that the disease was chiefly in the tibia, the surface of which was rough and irregular. A section of the tibia discovered in the cancellated structure an insulated portion of bone surrounded by a soft, pulpy, granular membrane. This was a central necrosed portion with which a sort of cloaca, formed through the external bone, communicated. The rest of the bone was healthy, except the epiphysis, which had the appearance of scrofulous bone. The ankle joint was diseased, the cartilage being stripped off in patches from the articulating surfaces of the tibia and the astragalus, yet there had been very little pain experienced when the foot was rotated, or the sole pressed upwards. All this mischief had occurred since the sprain in last December.—*10th February, 1844.*

9. *Fracture of the Pelvis united ; 2. Inflammation of the Bladder and Kidney ; Urinary Fistula.*—Doctor Houston said, the preparations which he had to lay before the Society were taken from the body of a man who, in the year 1833, had had his pelvis crushed between two waggons going in opposite directions, on the Dublin and Kingstown Railway. He fell at first into a state of collapse, on being roused from which he was in extreme agony. On the second day after the accident he was brought to the City of Dublin Hospital, in Baggot-street; he then complained of very severe pain at the inner and upper part of the right thigh; the limb itself was quite powerless, but not paralysed; there was neither shortening nor eversion. He felt excessive pain when the trochanter, or any other prominent point, was touched, or when any attempt was made to move the limb. The bladder was paralysed; on the fourth day a tumour was observed in the perinæum; to this leeches were applied, but all the means used failed to effect resolution. The abscess was opened on the eleventh day: pus was discharged at first, and finally urine passed out through the opening. It was about this time observed that the tuberosity of the right ischium was moveable, and that the motion was attended with crepitus. It was conjectured that the obturator nerve was injured at the seat of the fracture, and that this was the cause of the severe pain that was felt. During four months the pain was unvarying; the urinary fistula remained in the perinæum, and the patient was with great difficulty supported. In the fifth month a small soft tumour was perceived in the back, near the sacrum. This tumour was not painful; it was opened, and urine was discharged from it. In the seventh month a deep abscess

formed at the upper and inner part of the thigh; this was opened, and at first pus, then urine, passed from it. Urine continued to be discharged from all these openings. By the end of the eleventh or twelfth month there was perfect ankylosis of the right thigh; the patient could be moved on his side, but there still remained the urinary disease. During all this long period there had been sloughs on various parts, caused by the constant pressure, the long confinement to bed, and the trickling of urine about the patient. These difficulties were surmounted by constant and unremitting care, and there remained only the urinary complaint to manage, but this was difficult in the extreme. The ankylosed limb lay inwards towards the perinæum in such a manner as to obstruct examination of that part. There was frequent retention of urine, the cause of which could not be ascertained. The catheter could not be passed, nor the bladder punctured. However, by introducing a finger into the rectum, a bag was felt in the situation of the membranous urethra, and it was then conjectured that from this sac the urine had passed to the various fistulæ. After a consultation, an incision was made in the perinæum, as in lithotomy; the soft sac was reached, opened, and urine discharged from it. The patient now rapidly improved, the other fistula healed up, the urinary fever disappeared, and only the perinæal fistula remained. To heal this, and restore the natural passage, was Dr. Houston's next object. For this purpose, he first dilated the urethra from its orifice backwards to the sac, then passed a director through the sac, from the perinæal opening into the bladder; he was now enabled to pass a catheter, and succeeded in healing up the fistula. The man at last left the hospital, cured certainly, but with an ankylosed limb. An easy employment, which did not require activity, was provided for him on the railway, which he held for several years, till repeated bad conduct forced the Directors to dismiss him. He was then lost sight of. In 1842 he sent for Dr. Houston, who found him lying in a wretched hovel, with an open sore, of unhealthy appearance, in the right groin, and another in the upper part of the left thigh. These were the orifices of urinary fistulæ. At first sight their nature could not be determined, but an examination of the discharge from them detected urea. Their appearance was represented accurately in a drawing which Dr. H. exhibited. This man was readmitted into hospital, and died there. After death the body was carefully examined. It was found that the fracture of the ischium was completely united. It had extended through the acetabulum; at the thyroid foramen the side of the bladder and the pelvis were matted together by a glutinous matter, a process of which extended through the ischiatic notch, by which the urine had passed to the back. The kidneys were diseased and suppurating; the ureters also were diseased; the bladder was thickened; the mucous coat was inflamed, and had lymph deposited on it. The remains of the original sac were traced in the perinæum.—*24th February, 1844.*

10. *Caries of the Vertebrae with Destruction of the intervertebral Substance; no Paralysis.*—Mr. O'Ferrall presented a specimen of disease

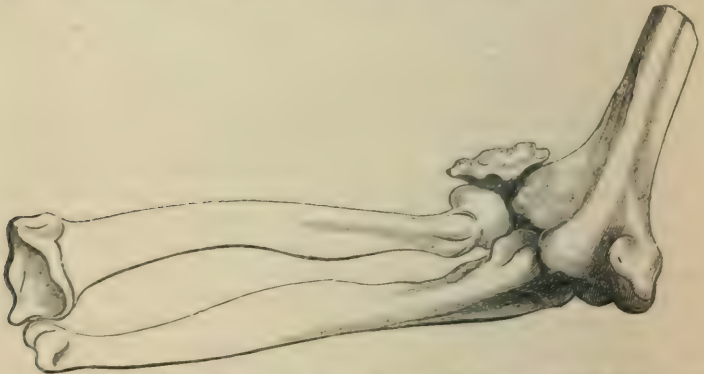
of the vertebræ from the body of a boy four years and a half old, who died on the 7th of March in St. Vincent's Hospital. He had angular curvature of the lower cervical and upper dorsal vertebræ, but was not paralysed. He was in a state of marasmus, was labouring under diarrhœa, and was sinking when brought into hospital. The previous history of the case was, that two years ago he had been run over by a cart, but, for a considerable time after the accident, had no remarkable symptoms. Six months ago he was first observed to be ill, and could not support his head without the aid of his hands placed under the chin; this inability to support the head gradually increased up to the time of his admission, but there was no paralysis of either upper or lower extremities. In the examination after death, extensive caries of the vertebræ was discovered, extending from the fifth cervical to the eighth or ninth dorsal; the loss of substance was greatest at the highest point, where the bodies were almost completely eroded, and became less deep, and at last superficial in its course down the spine. The caries produced a cavity anterior to the spinal column, which was lined with lymph, and appeared to be the commencement of an abscess; at the bottom of this cavity there were some exfoliations, or detached portions of bone; the heads of the ribs articulated to the first and second dorsal vertebræ were eroded and the articulating surfaces destroyed. It was remarkable that the intervertebral substance was destroyed even more than the vertebræ themselves, the reverse of what occurs in caries caused by aneurism, and also the central portion of the body was more affected than the margins. The spinal marrow was completely intact, the brachial plexus and all the spinal nerve were as yet healthy, the lungs were free from tubercle; the apex of the right lung was adherent to the diseased spine, or rather formed a part of the parietes of the cavity produced by the caries; on detaching the adhesion the cavity was exposed. This case could not be considered as an example of Brodie's *true scrophulous disease of the vertebræ*, and, besides other points of interest, was remarkable for the complete integrity of the spinal cord.—9th March, 1844.

11. *Fracture of the outer Condyle of the Humerus; Displacement of the Bones of the Forearm, along with the detached Condyle, backwards, outwards, and upwards.*—Mr. Robert W. Smith exhibited an example of an injury of the elbow joint, which he considered to be of very rare occurrence, viz., fracture of the outer condyle of the humerus, with displacement backwards and outwards of both bones of the forearm. The following characters mark the nature of the lesion, and serve to distinguish it from the more common accident, fracture of the outer condyle, with displacement of the condyle upwards and outwards, along with the radius, as well as from the still more usual and simple accident, luxation of both bones of the forearm backwards:—1. Viewing the joint posteriorly, two prominences are seen, but they are upon the same horizontal level; they are caused by the olecranon process, and by the displaced condyle. 2. The finger cannot be placed in the cup-like cavity on the head of the

radius, as this process still holds its natural relation to the capitulum and outer condyle of the humerus, being displaced along with it. 3. When the forearm is extended and rotated crepitus can be felt,



and the outer condyle is found to be moveable.—4. When extension and counter-extension are made, the deformity is easily removed, by the return of the bones to their natural position, but when



the extending force ceases to act, *part* of the original deformity reappears; in other words, the ulna remains in its normal position, but the radius and the outer condyle of the humerus are again displaced; in addition to these diagnostic signs, the nature of the injury, in the individual case under consideration, was further manifested, by a very remarkable projection of the inner condyle (the bones of the forearm being thrown outwards, as well as backwards), and by a prominence in front of the joint, caused by the lower end of the humerus; the forearm was flexed and pronated. The accident from which the fracture and displacement

resulted, had occurred many years before the patient's death, and it did not appear that he had applied for surgical assistance; the bones (as might be expected under such circumstances), had undergone remarkable alterations in form; the changes, however, were much more striking in the humerus than in the bones of the forearm; the lower end of the humerus presented a nearly plane surface of a quadrilateral form; scarcely any vestige remained of the fossæ, which, in the natural state of the articulation, receive the olecranon and coronoid processes, and the head of the radius and the trochlea had altogether disappeared; the detached condyle, much enlarged and altered in form, was united by ligament to the humerus; its inferior surface, in contact with the head of the radius, was deeply concave, and the entire radio-humeral articulation was surrounded by a dense capsule, from the internal surface of which a ligamentous band passed downwards, and was inserted into the depression in the head of the radius; this articulation, therefore, in its form and ligaments, bore much resemblance to the normal condition of the hip joint. Of this ligamentum teres (if it may be so called) Mr. Smith said he had seen numerous examples in cases of unreduced luxations of the bones of the forearm, as well as in cases of chronic rheumatic arthritis, affecting the elbow joint.—22nd March, 1844.

12. *Benign Osteosarcoma affecting the Hands and Feet.*—Dr. Hutton produced a cast and drawings of a very well-marked instance of a case of the disease termed *Benign Osteosarcoma*. The subject of the present, which is an extreme case, is a boy aged fourteen or fifteen, of deficient intellect.—The disease had existed seven or eight years; it occupied both the hands and feet; the skin of the affected parts was discoloured; there were openings formed by ulceration at the prominent points; the weight of the left hand was very considerable; the bones of the fore-arm and hand, down to the phalanges, were engaged in the disease; the fingers were enlarged in every direction, and curved, so as to be useless; in some of the phalanges a slight mobility still remained; the disease in the foot extended to the fibula; the disease had probably commenced in the medullary structure. A section of this morbid structure in an early stage, shows a texture like cartilage, or fibro-cartilage, as described by Mr. Adams, in a case operated on by Dr. Cusack; at a later period it is pervaded by a vascular membrane, and at last there remains of the bone only a thin osseous shell, coating the tumour, with some plates and spiculæ of bone scattered through it; the bulk of the tumour is sometimes cartilaginous, sometimes like concrete albumen.—30th March, 1844.

13. *Luxation of the lower Jaw.*—Mr. Adams laid before the Society a series of casts and drawings illustrative of dislocation of the lower jaw, an accident of which he had lately met with three cases (a). One of these a woman living at Howth, had dislocated her jaw while eating a large potato. She walked into Dublin after the accident, and applied at Jervis-street, when the pupils made several ineffectual attempts at reduction before she was seen by Mr. Adams. She

at first objected to his proceeding with another attempt, and some delay being thus incurred, he availed himself of the opportunity to have a cast made of the face while the jaw still remained unreduced. When the reduction was proceeded with, one condyle was first replaced and then the other. There was profuse salivation while the luxation continued; all the other symptoms were well displayed in the cast—the widely open mouth, the advanced chin, and the prominence between the eyebrow and the ear in the temporal fossa. (b) Another case was that of a female admitted into hospital for an extensive burn received during an epileptic fit; she had another fit in the hospital during which the dislocation occurred, which the surgeon did not observe, and it was never afterwards reduced. (c) A third case, in which the dislocation was on one side only, was that of a patient under the care of Mr. R. W. Smith, in whom the accident occurred during prayers by yawning widely, but there had been a previous luxation during an epileptic fit. In this case there was a remarkable prominence produced by the displaced condyle, much greater obliquity of the chin, and a very profuse salivation. The appearances were represented in the drawing. These cases were all produced by muscular efforts; the accident is perhaps more frequent in females than in males. There is no injury more easily recognised, yet it has sometimes been mistaken, of which Mr. Adams had known an instance in a gentleman traveling through Wales on foot, who, yawning after a long day's walk, had dislocated the jaw. A Welsh surgeon who was called in, ordered an emetic! The luxation was afterwards reduced by the patient's own efforts.—*30th March, 1844.*

14. *Disease of the Sacrum, Coccyx, and left Ischium, with incomplete internal Fistula in Ano.*—Dr. Hutton presented recent specimens of disease of the bones of the pelvis taken from the body of a female at. 17, admitted into the Richmond Hospital on the 14th of October. She was then labouring under the symptoms of hectic in its advanced period. She was greatly emaciated, suffering from loss of sleep, want of appetite, and very intractable diarrhoea. She complained of pain in the situation of the sacrum and coccyx, and it was observed that there was a discharge of pus from the anus along with the faeces; a gurgling, as of air and liquid within a cavity, was perceptible at the left nates, but no fistula could be detected. From a view of all the symptoms it was conjectured that there was disease of the sacrum and coccyx, with an opening into the rectum; a conjecture which was afterwards verified when the body of the patient, who died on the 20th of November, was examined. From the condition of the patient at admission little could be hoped from remedial means; the diarrhoea was uncontrollable: a puncture was made into the cavity where the gurgling had been detected, and a quantity of foetid air escaped. This operation was repeated twice, but very little pus was discharged; one opening was made directly over the diseased bone; the articulation of the sacrum and coccyx was extensively diseased; the sacrum itself was denuded of periosteum up to the lumbar vertebrae; the tuber of the left ischium was

carious; there was an opening into the rectum about six lines above the reach of the finger, which had probably been valvular. It was remarkable that there had been no nervous symptoms in this case.—*30th November, 1844.*

15. *Compound comminuted Fracture of the Cranium.*—Mr. R. W. Smith exhibited a specimen of compound comminuted fracture of the skull, engaging a portion of the frontal bone, above the superciliary margin, and destroying the roof, inner wall, and a part of the floor of the orbit upon the left side, together with a considerable portion of the sphenoid and ethmoid bones. The inner wall of the right orbit was also broken; the breeching of a gun, together with the screw which fastened it to the stock, had been driven into the head, and were lodged at the back and upper part of the nasal cavities; the antrum was filled with coagulated blood; the anterior lobes of the brain lacerated, the left olfactory nerve destroyed, and the bulbous extremity of the right torn. The injury was caused by the bursting of a gun two hours before the admission of the patient into the Richmond Hospital. The breeching of the gun struck him over the left eye; several splinters of bone and portions of the stock of the gun were driven into the brain, and the crushed cerebral structure passed through the wound. When he was admitted into the hospital the patient was in a state of collapse; he had rigors, the surface was cold, the pulse slow and feeble, the respiration 16 in the minute, and without stertor; he answered questions rationally, but in monosyllables; a profuse hamorrhage followed the removal of some of the splinters of bone and wood from the brain; a few hours after his admission symptoms of delirium set in, and he was obliged to be forcibly restrained. The pulse now rose to 70, the respiration to 24; still without stertor. Upon the following morning he had delirium ferox; the pulse beat 120; he screamed so as to be heard in all parts of the hospital; the pulse finally rose to 150, and he died thirty-six hours after the receipt of the injury. The pupils were natural throughout, and he had no convulsions. The left nostril was insensible to the most pungent odours. Mr. Smith detailed the particulars of a similar accident which occurred to an officer, by the accidental discharge of a fowling-piece; but in this case the individual survived the injury eight years.—(*Museum, Richmond Hospital.*)—*4th January, 1845.*

16. *Chronic rheumatic Arthritis of the Toes.*—Mr. Robert W. Smith presented a remarkably fine specimen of this disease, affecting the joint between the metatarsal bone and the first phalanx of the great toe. The joint was greatly enlarged, forming a tumor, somewhat of a globular shape, and larger than a walnut shell; all the structures entering into its composition were intensely vascular, the bones were of a bright scarlet colour, deprived of their cartilage of incrustation, and grooved in the line of flexion, the end of the metatarsal bone, greatly enlarged, was received into a cavity of a glenoid form, and constituted, by three bones, the end of the phalanx, and two sesamoid bones; the long axis of this glenoid cavity was placed vertically, and was nearly two inches in length. Mr. Smith remarked that it was the most exaggerated example of the disease in

the smaller joints that he had seen.—(*Museum, Richmond School.*)—*4th January, 1845.*

17. *Fractured Patella.*—Mr. R. W. Smith presented a specimen of fractured patella, together with a cast of the limb. The specimen was obtained in the dissecting room of the Richmond Hospital School, to which the subject, a male, had been conveyed from the North Union Workhouse; the fragments were enlarged, they were connected by a fibrous tissue, which was lined on the interior by synovial membrane, and covered externally by the skin, but a great degree of separation remained between the fragments; the upper fragment was drawn up more than two inches above the knee joint, part of its surface was in contact with the femur, while in another part there was a bursa interposed; where the two bones came in contact the surface of the femur was scabious, and in some parts exhibited spots of ivory deposit; the lower fragment moved on the upper and anterior aspect of the head of the tibia; the ligament of the patella was shortened, and had become denser than in the normal state. Mr. Smith, after pointing out the several lesions which he had described, concluded by some observations on the necessity of directing the treatment of these accidents to making the ligamentous union between the fragments as short as possible; in this instance the uniting ligament was more than four inches in length.—(*Museum, Richmond School of Medicine.*)—*4th January, 1845.*

18. *Caries of the first and second cervical Vertebrae, without any Lesion of the Medulla Oblongata or Spinalis; Hematocoele.*—Dr. Hutton presented specimens of diseased vertebrae taken from the body of a man *et. 50* who died in the Richmond Hospital during December, 1844, in consequence of disease of the upper cervical vertebrae, which he had been labouring under during the preceding ten months. At the time of his admission into the hospital he was in a state of emaciation, and hectic; there was a fistulous opening in the neck, and the history of the case shewed that there had been a succession of abscesses formed about the diseased vertebrae. The motions of the head were performed with difficulty, and were accompanied by a grating sensation. Neither flexion nor rotation could be effected by the usual actions; pressure on the vertex caused pain; swallowing was difficult, and mastication also caused pain. The respiration and the action of the heart were natural, there was no paralysis, no symptom indicative of disease of the medulla oblongata or medulla spinalis. A few days before death there was observed a projection of the mucous membrane into the pharynx; this, when examined, gave an evident sense of fluctuation, but as the patient was then sinking no operation was performed. This abscess probably burst into some of the abscesses in the neck; it was found collapsed when the body was examined after death, and the mucous membrane remained uninjured. The upper part of the vertebral column was carefully examined. It was observed that the check ligaments of the odontoid process had been destroyed, but the process itself had not been displaced. The articulating surfaces for the condyle of the occipital bone, and also those between the first and second vertebrae, were carious; the medulla spinalis was

uninjured. In a case communicated by Dr. O'Ferrall of extensive disease of the cervical and upper dorsal vertebrae, where the medulla spinalis was laid bare and bathed in pus, the medulla itself was uninjured, as in the present case. In the course of the examination a disease of the testis was discovered by Mr. Smith, which had not been noticed during life. The tunica vaginalis of one side was swollen, and was found to contain a large clot which had been so long in that situation that it had lost the usual appearance of coagulum, and was of a yellowish brown colour. The testis itself, which was atrophied, lay at the bottom of the tunica vaginalis, to which it was adherent, and was not surrounded by the coagulum. The tunica vaginalis was thick and condensed.—(*Museum, Richmond Hospital*).
4th January, 1845.

THE DIGESTIVE SYSTEM.

1. *Ulceration of the small Intestines.*—Dr. Corrigan made the following communication to the Society. A patient was admitted into the Hardwicke Hospital, December 22nd, 1842, with slight fever, which passed off in a few days, the principal symptoms having been referrible to a congestion of the vessels of the brain or its membranes. The patient was in the convalescent ward about fourteen days before his death, when symptoms of disease of the intestines began to appear; at first the pulse rose, and was rather hard, but soon after there was great debility and sudden emaciation; the tongue was deeply fissured, red, and dry; the skin hot, and without any sign of perspiration; the abdomen slightly tympanitic, and free from pain on pressure: there was no diarrhoea, but occasional vomiting. Emaciation progressed very rapidly, and the patient died exhausted.

On *post mortem* examination, the lower part of the ileum was found extensively ulcerated, the ulcers presenting different appearances in different places, some of them being very similar to the pustules of variola; others having the appearance of a white cicatrix, as if traced out by a snail traversing the mucous surface; while others again had advanced to a complete loss of surface, although, on account of the enlargement of the mucous follicles, they formed a projection above the surrounding mucous membrane. The disease was almost entirely confined to the small intestine, a circumstance which appears to me to account for the absence of diarrhoea, this being a symptom which I have observed only in those cases where the colon and cæcum are engaged in the disease.

These cases, coupled with a case of maculated fever in which death had occurred in six days, and which on examination presented no lesion whatever, possess much interest; and from a candid review of them it is difficult to avoid coming to the conclusion that disease of the intestinal tube does not constitute the pathology of fever.—11th February, 1843.

2. *Cancer of the Stomach, with Adhesion to the Diaphragm and Liver.*—Mr. O'Ferrall made the following communication:—A female whose countenance during life was very expressive of the existence of

malignant disease, was for some time under my care, not having any obvious symptoms at all proportionate to the extent of the lesions discovered in the examination after death, which were as follows:—A large soft cancerous tumour exhibiting the cauliflower aspect, with a central depression, occupied the lesser curvature of the stomach, encroaching slightly on the cardiac orifice, but leaving the pyloric intact. Externally the stomach was adherent to the left lobe of the liver, which was there beginning to be disorganized, and it was also connected to the diaphragm, to which the convex surface of the liver was adhering; the greater part of the stomach lay under and was connected to the left lobe of the liver. The symptoms during life were principally referrible to the bowels; there was obstinate diarrhœa of six months' duration, but there was neither vomiting nor pain in the stomach. The only indication of the stomach being affected was, that after taking food there was a sensation described as resembling the sudden stoppage of the morsel immediately after its being swallowed. There were two species of such cases liable to escape detection; in one there was stricture of the pylorus: the other was without that complication; these were distinguishable from each other by very attentive observation. The present case might have been mistaken for an abdominal tumour, but the adhesion to fixed parts, such as the liver and the diaphragm, prevented the formation of any tumour; it would have been otherwise if the cancer were situated in the greater curvature. A case of this kind has occurred in which an adhesion had been formed to the colon, and an opening led from the stomach into that intestine, about which there were numerous peritoneal adhesions, and an immense deposition of cancerous matter. The contents of the stomach, for instance, and pills, retaining their silvery, then passed at once into the great intestine. In this form of the disease shewn in the present specimen, there is no disease of the omentum.—18th February, 1843.

3. *Stricture of the Rectum.*—Dr. Kirkpatrick exhibited the pelvic viscera of a female who died of acute disease while labouring under stricture of the rectum. This specimen he considered interesting, as an instance of a class of cases occasionally met with where disease situated in the rectum gives rise to symptoms of urinary irritation, causing much difficulty in diagnosis. The patient, Anne Hume, aged 45, came under his notice two years since, labouring under well-marked symptoms of catarrh of the bladder. She had great and constant pain, with frequency in making water, which was alkaline, and deposited a copious sediment. In making an accurate examination of the bladder, the finger was introduced into the rectum, and accidentally discovered a close and firmly-resisting stricture. The patient had made no complaint of it, nor was she aware of any disease in that situation. A simple treatment of anodyne enemata, lenitive electuary, and mucilaginous drinks, was followed by the complete removal of the urinary symptoms; the disease in the rectum giving little annoyance up to the period of her death, which took place from acute chest disease. The bladder was perfectly healthy; the orifice of the anus presented the peculiar ewer-lip ap-

pearance described by Mr. Colles; two inches above it the stricture was observed; it scarcely admitted the point of the finger. All the coats of the intestine were thickened, but the stricture itself did not occupy much extent, terminating in a sharp edge internally. Above, the intestine was not dilated, but there was superficial ulceration of the mucous membrane; below the stricture there was no ulceration. This disease had nothing of a malignant character, but was a specimen of the simple organic stricture. Dr. K. mentioned that he had lately met another remarkable case in a male patient, who had presented well-marked symptoms of urinary disease during three years; had been in several hospitals, and frequently sounded, as he had some symptoms of stone, viz., bloody urine, and pains in the glans penis. This patient died lately, and his bladder was found in a perfectly healthy condition, but an ulcer existed in the rectum, communicating with a large abscess between it and the bladder.—*15th April, 1843.*

4. *Strictured Pylorus, Hypertrophy of the Coats of the Stomach.*—Mr. O'Ferrall exhibited a stomach taken from the body of a lady aged fifty-six, who about six months previous was observed to become very thin and emaciated, without any very obvious complaint, except that she sometimes vomited in the evening the several ingesta along with a quantity of a glairy mucus. After some time there was pain felt in the epigastric region, which gradually became more and more severe. The vomiting became coffee coloured; the bowels obstinately constipated, except when acted on by purgatives; at last these medicines became ineffectual. Mr. O'Ferrall was then called in, and found her in a state of inanition; she appeared cold, pinched, and starved in aspect, and was evidently sinking; she died soon afterwards, and the body was examined. The stomach to the hand felt like thick leather; its coats were gradually thickened from the middle to the pyloric extremity, where the thickening was greatest. A section shewed that all the tissues, except the peritoneal covering, were hypertrophied; this condition has been described by Andral as the chronic thickening of the stomach. The pylorus was strictured to such an extent that a bougie of size No. 5 could barely pass through it; there was no organic disease in any other part of the body; the omentum was exceedingly thin, very transparent, and of a greenish hue. In this case the disease was very local, being completely confined to the pylorus, and the adjacent portion of the stomach. This is the very opposite of what happens when there is enlarged pylorus, as has been shewn to the Society in specimens formerly laid before it. In one of these, it would be recollected, there was a cancerous mass diffused over the stomach, the omentum contained cancerous tubercles, and the liver contained Farre's tubercle. The diseases also differ in their progressive changes; this had proved fatal without advancing to ulceration; the symptoms and the termination were also different in both. In this disease the principal symptoms were the cold starved look, the pain in the region of the stomach, vomiting and obstinate constipation; the purgatives given by the mouth

being rejected, and only enemata retained: death was at last produced by inanition. In true cancer, on the contrary, the countenance has a pasty, bloated look; the food passes rapidly through the intestines, and there is diarrhœa: there is no pain when the cancer is in the lesser curvature, and death is produced by the extensive diffusion of the malignant disease.—*29th April, 1843.*

5. *Chronic Ulcer of the Stomach perforating its Parietes; Pancreas adhering to the Margin of the Aperture.*—Mr. R. W. Smith presented a specimen and cast of a chronic ulcer of the stomach which had completely perforated that organ, which at the point of perforation had become adherent to the pancreas. The specimen was taken from the body of a woman who had been very corpulent, but within the last two years had become emaciated and sallow. She had been twice treated for chronic enteritis, but had no symptom of any disease of the stomach. She died during an attack of dysentery, with symptoms of acute inflammation, but had neither vomiting, thirst, nor epigastric tenderness—nothing that could induce suspicion that the stomach was diseased. Her appetite for food continued unimpaired up to her last moments. When the body was examined after death numerous ulcers were found in the intestines, as might have been expected from the previous symptoms. The stomach was contracted in the middle; it was adherent to the liver and the pancreas, and an ulcer as large as a half-crown piece existed within it. Its appearance, when recent, was exhibited in the cast. The ulcer had the diameter of a crown-piece, and the well-defined edge which is usually observed in the chronic ulcer, of which this was a fine specimen. What was most deserving of notice was, that the floor of the ulcer was formed by the pancreas. This was the first instance of this occurrence which had been presented to the Society; but Cruveilhier, whose accurate and extensive researches nothing appears to have escaped, has given a delineation of a similar case. Dr. Smith observed that ulcers of this sort were always solitary; he had never known or read of any case in which more than one existed in the stomach, not even in cases which, like the present, had numerous ulcers in the intestines. The cause of these ulcers in the stomach is as yet unknown. They are generally found at the lesser curvature, and on the posterior wall of that viscus; and they have been remarked to have some tendency to heal. That in the present case was beginning to cicatrize, a circumstance first remarked by Baillie. When the body of Beclard was examined the cicatrix of an ulcer of this species was found in his stomach. The cicatrix is easily distinguishable, by its firmness, from the natural structure, which is not truly regenerated. There is not ascertained any pathognomic sign by which, during life, this affection could be distinguished from simple gastritis, or from carcinomatous disease of the stomach. A case had been described by Dr. Cusack, of extensive cancerous disease of the stomach unattended by any gastric symptoms. The pancreas was healthy.—(*Museum, Richmond Hospital*).—*25th November, 1843.*

6. *Enormously distended and enlarged sigmoid Flexure of the Colon.*

—Doctor Banks presented a preparation and cast of an enormously enlarged colon: the subject of this case, a labouring man aged fifty, was admitted into the Whitworth Hospital on the 18th of December, 1843, suffering from severe colic, distention of the abdomen, sickness of stomach, and obstinate constipation of the bowels, of five days' duration. With the exception of some former attacks of the same kind, but less severe than the present, his health had been good. In last April, on the occasion of one of these, he had been in the Hardwicke Hospital, under Doctor Green. His countenance was not expressive of suffering; the abdomen was tense and tympanitic, but not tender on pressure; he was not thirsty; his tongue was slightly furred, his skin was natural, pulse soft and full—80 in the minute; the constipation was complete; the bowels had previously been quite regular. Purgatives were directed, consisting of calomel, cathartic extract, and croton oil, every third hour, which produced no evacuation; he spent a restless night, during which he had some vomiting; on the following morning it was observed that the pulse occasionally intermitted, and the extremities were becoming cold. Enemata, containing castor oil, and turpentine and croton oil, were now directed to be thrown up with the long tube, a measure which the patient earnestly solicited, mentioning that he had been in that manner relieved from his former attack, in the Hardwicke Hospital. This attempt also failed; the tube, when it had been introduced to the extent of nine inches, meeting with an obstruction which would not yield, even to a jet of fluid propelled through the tube. At 4 P. M., on that day, he was seen by Dr. Hutten, who advised hot fomentations, with oil of turpentine to the abdomen, and a suppository of aloes to be introduced into the rectum, as far as the tube reached. The purgatives by the mouth were still continued; he was restless during that night also, and suffered much from pains in the abdomen and distressing sense of fulness; in the morning (20th Dec.) his countenance was haggard, pulse slow, weak, and intermitting; he was thirsty; pressure on the distended abdomen now rather exacerbated than relieved the sense of pain; the stomach was less irritable than it had been; the urine scanty and high-coloured. In consultation with Dr. Corrigan, aloetic wine and oil of turpentine were directed in frequent doses; the strength was now failing, and galvanism was suggested; but the application of this agent was rendered unnecessary by the perseverance of Mr. M'Dermot in endeavouring to introduce the œsophagus tube into the rectum, so as to remove the obstruction, in which, after several ineffectual attempts, he at last succeeded; at first fœtid gas escaped, and afterwards some liquid fæces; the patient obtained immediate ease; the instrument was withdrawn, and in about an hour copious dejections came away; the abdomen subsided, and the relief appeared complete; the patient soon afterwards fell asleep. In the evening a sudden change for the worse set in; the features appeared collapsed, the pulse failed, the action of the heart was feeble and fluttering.

the extremities were cold, the abdomen tender on pressure, and he died at two o'clock A.M. on the 21st, being the third morning after his admission. The appearances observed on opening the abdomen were accurately expressed in the cast. The sigmoid flexure of the colon *enormously* distended, and of a green colour, resembling the *verde antique*, occupied a great extent of the abdomen, it had the appearance of being rolled on itself; there was no stricture in any part of the canal, nor any obvious alteration of structure; even the distended colon presented no appreciable lesion, except the distension and remarkable colouring. There were traces of slight inflammation of the peritoneum, which were not recent; the stomach was small and contracted; it was completely concealed by the intestines; the colon was nearly two feet in circumference.—(*Museum, Richmond Hospital*).—6th January, 1844.

7. *Liver granular, and of a purple Colour; Spleen enlarged; Jaundice*.—Mr. O'Ferrall detailed the following case:—A fine young man, twenty-six years of age, who was respectably connected, but was addicted to dissipated habits from an early period of life, was brought under my notice, at a time when he had been several times mercurialized, and his constitution evidently broken down. He was admitted into St. Vincent's Hospital, suffering under dropsy, jaundice, and the effects of former mercurial courses. When I examined him his utterance was imperfect, he wandered a little in his discourse, although he understood and replied to questions; he complained of giddiness in the head, he had tremors of the hands; he was evidently anæmic, and altogether no very active treatment could be adopted; iodine was used externally. After this, though the other symptoms were somewhat mitigated, those of the affection of the head became more prominent, indicated by a greater degree of wandering in his speech; this too was relieved, and then came on bleeding from the nostrils, and the urine, which had been loaded with bile, was now coloured with blood: the mouth and fauces appeared incrustated with blood: he became comatose, and in that state died. The symptoms were all explained by the results of the examination of the body after death; within the cranium the arachnoid was thickened, and the subarachnoid tissue also thickened and infiltrated, usual consequences of a chronic arachnitis which is frequently met with in intemperate persons; the brain itself was pale and shrunken; the heart was pale and flabby; the left cavities were empty; the right contained black fluid blood; the lungs were engorged with venous blood; there was fluid effused into the peritoneum; the liver was of a remarkably purple colour still visible in the preparation; its surface had a tuberculated appearance, the entire organ being in the state of cirrhosis, and greatly contracted; the granules can be observed projecting from the surface and surrounded by the peritoneum, which is opaque, and thickened by chronic inflammation; the spleen was much enlarged, exceeding the liver in size; the jaundice in this case was referrible to the condition of the liver, the whole of the cellular structure of which was thick and indurated; the dropsy was to be viewed in connexion with the same lesion, and hæ-

morrhages which occurred in the latter stages of the case might be attributed to the obstructed state of the portal circulation, in consequence of which a greater quantity of venous blood was thrown into the general circulation, and also to a deterioration of the blood itself, blood from which the materials of the bile had not been eliminated still continuing to circulate. The minute anatomy of this state of the liver has been diligently investigated by Mr. Kiernan. The enlargement of the spleen in such cases is satisfactorily accounted for, by its becoming a reservoir for venous blood when the portal circulation is obstructed, and in this way an enlarged spleen may often prevent the occurrence of hæmatemesis. In the present specimen the colour of the liver was very remarkable; the usual colour of a liver in this state is yellow, whence Laennec, believing it to be constant, gave it the name, "cirrhosis" (from the Greek *κίρρος*, *yellow*), but in this specimen the liver was purple; the projecting granules on the surface were of this colour at their prominent points, surrounded by the peritoneum, opaque, and thickened by chronic inflammation. If the name of the disease were to depend on colour, this specimen ought to be named *Cyanosis* (Gr. *κύανος*, *blue*); perhaps this peculiar colour depended on the mode of death. Devergie has shewn that the mode of death powerfully influences the state of the organs in the great cavities. This principle may probably explain the difference observed in the colour; when the death is protracted, and by syncope, the left cavities of the heart are found full of blood, and the liver is pale; but when death commences in the lungs or brain, then the hepatic venous congestion may predominate, and the liver be of a dark blue or purple. To the state of the brain in syncope I have before adverted, and the result of all my observations confirms the statements of those pathologists who hold that the liver consists of one structure only, imbedded in a fine cellular tissue, the capsule of Glisson; and that cirrhosis consists in hypertrophy of that cellular matter by which the acini of the true hepatic structure are compressed, and the whole organ indurated; it is in consequence of this compression that the granules become prominent on the surface, and sometimes are projected beyond it, and only retained in connexion with the organ by a pedicle. The next consequence is obstruction of the system of the porta, and then an increase in the size of the spleen follows. The enlargement of the spleen in cases of cirrhosis of the liver, has been frequently demonstrated to the Pathological Society by Mr. R. W. Smith: he has noticed it in all cases of granular liver, and has satisfactorily explained its mode of occurrence.—20th January, 1844.

8. *Case of congenital inguino-scrotal Hernia of a very large Size; most acute Strangulation; Operation in five Hours after the first Occurrence of the Strangulation; the Stricture divided, and the Intestine, which was protruded to the Length of three Feet, restored. Recovery from the Hernia; the Patient lived three Years, and having died of another Complaint, post-mortem examination proved that the Hernia had been radically and perfectly cured; the internal Ring, inguinal Canal, and Tunica Vaginalis Testis were obliterated.*—The following case was communi-

cated by Mr. Adams, and the specimen exhibited.—On the evening of the 14th Sept., 1839, I was called to see Mr. H. W., a barrister, about forty-two years of age. I found him walking about the room, greatly agitated, leaning forward, and complaining of intense pain in the left inguinal region and scrotum, which he shewed me largely distended and swollen; all this latter swelling had occurred suddenly: he had been stretching to reach a book from a high shelf in his library, when the swelling suddenly appeared. He stated that he had about two months previously (to a less degree) a similar swelling in the same side of the scrotum, which suddenly appeared when he was making an effort to get up on a stage-coach; but that on this occasion, under the influence of but little pressure of the hand, the hernia returned. He said also, that he had consulted Sir P. Crampton on the subject, who warned him of the nature of his complaint, and ordered him to procure a truss; he did so, but was not very attentive to himself; he sometimes used the truss, and sometimes left it aside; he had not the instrument on him at the moment when the large protrusion occurred from which he was at that time suffering.

The form of the swelling was not that which a large scrotal hernia usually presents, as it was more globular; the testis could not be felt, the scrotum was remarkably tense, and Mr. Adams had never seen a hernia attain so large a size in a space so short as half an hour. In these two circumstances the case presented the normal characters of hernia into the tunica vaginalis, or what is called a congenital hernia(*a*). We learned that the testis of the left side had remained in the inguinal canal until Mr. W. was 11 years of age; at this period he received a hurt from the shaft of a car in the left groin, which accident was followed by a very painful swelling; and this proved to be a true testitis or inflammation of the testis, caused by the above-mentioned injury which it had received while in the inguinal canal, where it had been lodged for so many years. Subsequently to this attack of inflammation (as if the external abdominal ring had been dilated by the enlarged testis), the latter organ descended into the scrotum; the canal, however, through which it had descended from the internal ring into the scrotum, remained open, but the intestine, we learned, had occupied habitually the inguinal canal, being, in fact, an example of what some writers denominate an intra-inguinal hernia, but never had descended through the external abdominal ring or become extra-inguinal until the gentleman had attained the age of 41 years. Up to this period he suffered no inconvenience from it, and indeed until after the protrusion occurred into the scrotum (when ascending a coach) he never considered the matter of sufficient importance to consult any one on the subject. Such are the particulars and history of the case, up to the period when I first saw this hernia, as I have since been able to collect them.

(*a*) An objectionable term, as the hernia is really not coeval with the birth or coming into the world of the infant, but rather coeval with the descent of the testis.

But now we had a very acute case of strangulated scrotal hernia to deal with, the history and rational signs of which made us also conclude it to be a case of hernia within the tunica vaginalis. I took some blood from his arm from a large orifice, ordered him an enema, and I begged of Mr. Hatch, his apothecary, to remain in attendance on him, and that he would without delay see him provided with a warm bath; that subsequently ice should be applied to the scrotum, the tube recommended by Dr. O'Beirne to draw off flatus to be had recourse to, and, if all these failed, in two hours to exhibit the tobacco enema, determining about this time to call again to renew my efforts with the taxis. At 10 o'clock, P. M., after having had recourse to all measures I had any confidence in, the taxis included, and having in no degree succeeded, I informed him that I could not permit the night to pass without having recourse to the operation for strangulated hernia, as I felt persuaded nothing else would avail. I immediately demanded a consultation, and he naturally fixed upon Sir P. Crampton, who had before seen him. At 11 o'clock, P. M., we met, and Sir P. said, he should be glad to try, with Mr. W., the taxis, in what he conceived the most favourable position for the experiment; he therefore placed Mr. W., with his legs over my friend Mr. Elliott's shoulders, his head and body hanging down over Mr. E.'s back. While in this position Sir P. Crampton used as much pressure on the distended scrotum and inguinal canal as could be justifiable, but with no better success than I had previously met with; we therefore proceeded to the operation. As the tumour was so large and tympanitic, and evidently contained a large volume of intestine, it occurred to us that it was very desirable to divide, if possible, the stricture at the internal ring, without making any opening into the distended scrotum and hernial sac.

This mode of proceeding, however, we were soon obliged to abandon, as we found it by no means practicable, without risk, to lay bare the neck of the sac, at the ring, where the coverings were tense and thick; and I therefore, without further delay, enlarged the first incision downwards on the scrotum, in the ordinary way; I then made an opening into a remarkably thin, tense, and pellucid sac. This incision I extended upwards, towards the ring, and also downwards: much serum passed out, and now were exposed three coils of small intestine, much increased in volume; these three coils were placed transversely one above the other, they were of the colour of port wine, and had a finely polished surface. I next proceeded to introduce the director and Sir A. Cooper's hernia bistoury, to divide the stricture. At this period of the operation a number of bubbles of air made their appearance from the bottom of the scrotum; these created in our minds some momentary fears, that either the intestine had given way in some small point, or been punctured; but these fears were groundless, the air was merely entangled by the reciprocal movements of the sac and intestine on each other. Practical surgeons will bear in mind to have witnessed similar phenomena when

operating on regions, such as the axillary and subclavian, where the cutaneous investments at one moment cover, and the next expose the depths of these cavities, by the changes of posture necessarily occurring during severe operations; beneath and behind these appeared the white testis, in naked contact with the intestine, proving the case to be an example of what is called congenital hernia.

The intestines were so much distended with flatus, and the internal ring where the stricture existed so far from the surface, that more than ordinary care was of necessity to be observed in dividing the stricture. This was done by an incision of the ring, in the direction upwards and a little outwards; the intestine was readily reduced to its place, not by any general pressure, but by moderately urging. *inch by inch, each portion of the intestine* in the immediate vicinity of the internal ring; the naked testis, hanging by the spermatic cord, which appeared to be unusually long, was next placed *in situ*, and the wound, which was about six inches long, was united by three points of suture.

As peritonitis was chiefly to be apprehended in this case, we determined to exhibit two grains of calomel every second hour, with a view quickly to affect the system. This medicine was continued through the night, but the stomach having become very irritable about midnight, half a grain of opium was added to each pill. On Sunday morning, the 15th, we found the pulse quick and small, the stomach still irritable; the patient had not slept; he was thirsty, but afraid to drink; the abdomen a little tender. Although an enema had been exhibited, no faecal evacuation had yet occurred; an aperient draught (composed of ʒi. of infusion of roses, and one drachm of epsom salts) remained on the stomach, and produced two free faecal evacuations.

After this the calomel was continued every two hours. On Sunday evening we found our patient in a very uncomfortable state—uneasy, restless, the stomach irritable; he complained much of flatulence; he had not slept; thirst and other pyrexial symptoms as before: an anodyne enema was now exhibited. On Monday morning at our visit we learned that our patient had six hours' sleep, which refreshed him somewhat, but he had nearly the same symptoms as yesterday. The calomel, combined with small doses of opium, was continued pretty actively, with a view to affect the system, and thus either to ward off or to meet any rising symptoms of inflammation.

On our visit on Tuesday morning, September the 17th, the third day after the operation, we learned that Mr. W. had a tolerable night, but that he had bloody dysenteric stools, frequent, small evacuations, in a word, mercurial diarrhœa. This medicine, then, was immediately laid aside, and a rhubarb and magnesia draught exhibited. Afterwards, towards evening, anodynes were given; the diarrhœa was severe; but on the 19th, that is the fifth day succeeding to the operation for the hernia, the effects of the mercury on the bowels had ceased, and we found the patient's attention directed

altogether to the wound: his tongue was clean, and he began to ask for food. On the seventh day after the operation we considered him convalescent; and in about three weeks the whole wound was so far healed, that a truss, with *slight pressure*, was placed over the dressings at the ring. I need not trouble the Society any further with the details of treatment; suffice it to say, that in about four weeks the wound was healed, and Mr. W. resumed his professional duties daily at the Four Courts.

The operation for the strangulation of the intestine occurred on the 14th of September, 1839, and this gentleman lived, suffering little inconvenience from the hernia, until the 7th of January, 1844.

I was called to visit him on the 2nd of December, 1843. At that time he was confined to bed in the last stage of dropsy with a chronic disease of the stomach and peritoneum, the details of which are elsewhere to be found in this work. On the 7th of January, 1844, he died. On examination the congenital hernia was found to have been radically cured. The internal ring was hermetically sealed up. The smallest probe could not be introduced into it, and a hard cicatrix could be felt immediately adjoining it. The outer ring was surrounded by strong intercoluminal bands, the integuments were adherent to it, as was also the superficial fascia, which must have given great additional strength to the abdominal parietes here.

The cord in the inguinal canal seemed natural. Outside down to the testis it was adherent to the interior of the scrotum. The case just related seems to us of practical importance.

First. To add to the cases already on record, to prove that the form of hernia, called congenital, may occur in a person eleven years of age, or after that period.

Secondly. The case proves that when this form of hernia does present itself, it may very suddenly attain a very extraordinary size, and may present an instance of very acute strangulation, demanding almost immediate operation and division of the stricture.

Thirdly. That in the subsequent treatment of the case, it is well to anticipate the symptoms of acute peritonitis by the treatment which is usually found serviceable when it has actually appeared, namely, the active exhibition of mercury. Two grains of calomel every third hour were exhibited in this case, until the mercurial diarrhœa forbade the further use of this medicine.

Fourthly. That the operation for strangulation of intestine in this form of hernia may be followed by a very favourable result, even though an unusually large volume of intestine be contained in the hernial sac, or tunica vaginalis.

Fifthly. That this is not the only favourable result to be expected from timely operation, for the case appears to me of great value, in proving that after the operation, for this form of hernia at least, the radical cure may, under certain conditions, be hoped for; this condition being that the patient shall wear, both night and day, a well-adjusted truss.—*27th January, 1844.*

9. *Perforating Ulcer of the Stomach; Splenic Artery opened by Ulceration: Death from Hemorrhage.*—Dr. Law made the following communication to the Society.—A female, æt. 60, a native of France, was admitted into Sir P. Dun's Hospital, under Dr. Osborne's care, and was afterwards transferred to me. She complained of general uneasiness in the epigastrium, but more towards the left side. She was treated with sedatives and farinaceous diet, with the external application of irritants. Under this treatment she felt herself so much relieved, as to request permission to go a short distance in a car. She was allowed to leave the hospital. On her return she was attacked with profuse hemorrhage from the mouth and nares, prostration of strength, and coldness. She was revived by the use of stimulants. On the next morning the countenance was anxious, the skin hot, the abdomen tender, and the legs drawn up towards the pelvis. She had passed blood, per anum, during the night. Leeches were now applied to the abdomen, and calomel with opium administered internally. All the means used were unsuccessful, and she died in thirty-six hours after the occurrence of the hæmatemesis. When the body was examined it was observed, on opening the abdomen, that the usual results of recent peritoneal inflammation were present. The intestines were coated with lymph, and towards the hypogastrium were agglutinated together. Some clots of blood were scattered through the abdomen. There was some difficulty in removing the stomach, so much so that it was ruptured in effecting its detachment; it had a slight adhesion to the diaphragm, and was firmly adherent to the pancreas. It was found to have been perforated by two ulcers; one of these was on the posterior surface, where the stomach had become adherent to the pancreas. In the centre of this ulcer was observed an opening which conducted into the splenic artery, and was the source of the sudden hæmatemesis. Around the other ulcer the stomach had adhered to the diaphragm; the pyloric orifice was much contracted, but admitted of being enlarged by force; the mucous membrane of the stomach was not vascular; the ulceration was more extensive internally than externally, which was the case also in the example delineated by Cruveilhier, which Mr. Adams exhibited at a former meeting. Indeed, this case greatly resembled Cruveilhier's in several points. I had suspected, during the patient's life, that her disease was ulcer of the stomach; and from the result of this case I should recommend that in all cases where this is suspected that perfect quietness be enjoined; the fatal hemorrhage in this case having, probably, been induced by the motion of the vehicle in which the patient was carried; as also the separation of the stomach from the diaphragm, by which occurred the opening through which the blood escaped into the cavity of the abdomen. Or did the efforts of the stomach to relieve itself of the blood largely effused into it, break the adhesions hitherto existing between it and the diaphragm, and thus effect the opening? The difficulty of diagnosis in these cases is attributable to the uncertainty attending the symptoms of diseases of the stomach, there being often a great disproportion between the observed symptoms and the extent of disease

discovered on examination after death. On the other hand, there are often serious symptoms of disease of the stomach without any appreciable lesion of that organ discoverable after death.—*3rd February, 1844.*

10. *Malignant Deposition in the Peritoneum.*—Mr. O'Ferrall exhibited the recent parts in this case.—A woman aged fifty was brought to St. Vincent's Hospital in an advanced stage of dropsy, which she described to have commenced four months previously; the swelling of the abdomen was the first symptom she remarked; this rapidly increased, and then the limbs also became swelled. The dropsy was considered to be peritoneal; but, at the second visit after her admission, hydrothorax of the right pleura was also diagnosed. This patient lived only two or three days in the hospital, and her death was sudden. When the body was examined the mode of death was ascertained by beginning at the heart, as should always be done in the first stage of the examination; the left side of the heart was full of blood; the liver was slightly enlarged, and was paler than usual; the spleen was small; the peritoneum and omentum were extensively diseased, being the seat of a malignant deposition which might be described as the tubercular accretions of Baron, though I consider that under that name several diseases have been included; in the omentum there was encephaloid deposition; on the parietal peritoneum the deposit formed numerous small rounded elevations, which were smooth on the surface, shewing that the deposit was rather in the subserous tissue than in the peritoneum itself. The kidneys were very pale and anemic. The present case disagrees with the opinions of Dr. Aldridge, who has published the result of his researches as to the influence which the mode of death has on the blood in different organs (*a*); but this paleness should be looked on as morbid, not normal or healthy; all the disease in this case had been formed in four months, according to the patient's account. The disease is malignant—how does it originate? Is it the result of chronic peritonitis, as Dr. Hodgkin considers Baron's disease to be? I rather think it is not necessarily connected with peritonitis, either acute or chronic, for it is often formed without any antecedent peritonitis. In the present case the dropsy was formed without any symptom whatever of inflammation of the peritoneum. The seat of the malignant growths, and the slight amount of their development, prevented their having any obstructive influence on the alimentary canal; but, at a more advanced stage, similar deposits are capable of producing obstinate constipation.—*10th Feb. 1844.*

11. *Cancerous Degeneration of the Head of the Pancreas obstructing the Gall-ducts; Malignant Tumours in the Neck; Icterus.* Mr. Carmichael detailed the following case, and exhibited the morbid specimens to the Society.—A gentleman, sixty years of age and in affluent circumstances, whose habits during the greater part of his life were active, but who during the last five years had become indolent, in November, 1843, first applied to me, stating that an inflammatory

(a) See Dublin Journal of Medical Science, vol. xxiv.

tumour had appeared in his neck three or four days previously; there was at this time nothing to distinguish it from slow phlegmon; after a few days the patient became jaundiced, the tumour in the neck had increased in size, and had become more indurated; there was not as yet any indication that the jaundice was the result of organic lesion: calomel and aperients were directed, and caused copious dejections, with some bile, but the jaundice continued obstinate; there was no pain in any part of the abdomen, nor any symptoms of gall-stones.

After some time I saw him again; the tumour in the neck had increased considerably; from the degree of induration accompanying it, the rapidity of its growth, and its general appearance, I now considered it to be malignant; and the persistence of the jaundice, coupled with the presence of this external tumour, led me to suspect the existence of some internal tumour pressing upon the bile ducts; and this opinion was confirmed, when, upon now examining the abdomen, I found that there was a perceptible tenderness in the epigastrium, with enlargement and fulness towards the right side.

I proposed a consultation, but the patient, instead of adopting that course, placed himself under the direction of some quack: while he was under that person's treatment his symptoms persisted, and he had, in addition, vomiting of a black matter. Getting rapidly worse, he again applied to me, and a consultation was held with Sir H. Marsh; the case was hopeless, and little could be done for the patient: he died, not long after. The post-mortem examination was made by Mr. R. W. Smith. Upon laying open the abdomen, the cause of the jaundice was discovered to be an obstruction of the ducts by a malignant degeneration of the pancreas, which was greatly enlarged, and of a scirrhus hardness. The liver was not tuberculated; there was a large calculus in the gall-bladder. The tumour in the neck was connected in part of its circumference to the trachea, and was evidently a malignant growth; a section of it shewed the usual appearance of carcinoma.—*10th February, 1844.*

12. *Gall-Bladder enormously distended with aqueous Fluid; Gall-Stone impacted in the cystic Duct.*—Mr. R. W. Smith exhibited a gall-bladder of great size, filled to distension, not with bile, but with an aqueous and almost colourless secretion from the mucous membrane; its coats were greatly thickened; it might be designated a hydrocele of the gall-bladder. This specimen was taken from the body of a female who died of phthisis. The cystic duct was completely obstructed by a small gall-stone impacted in it, but the hepatic duct was quite free. This condition of the ducts explained the absence of icterus in this patient. The gall-bladder, distended in this manner, extended more than two inches below the ribs, a situation in which it has sometimes, in similar cases, been mistaken for an abscess and punctured. Mr. Smith referred to several cases of this mistake.—*17th February, 1844.*

13. *Rupture of a Part of the small Intestine, from external Violence.* Dr. Woodroffe exhibited the intestine in this case, and said:—"Such cases as the following are but of rare occurrence; this is but the

third instance I have met with in thirty years' practice. The patient in this case was a woman forty years of age, who had borne several children, and was nursing at the time of the receipt of the injury, which was a violent blow on the right side, below the level of the umbilicus, inflicted by her husband during some quarrel: this occurred at an early hour in the morning. On receiving the blow, she felt a sensation as of something giving way within her, immediately followed by great sickness, fainting, coldness, and incessant vomiting. She was brought into Jervis-street Hospital, where I saw her about noon; there was general tumefaction of the abdomen, which, however, was not tense, but rather flaccid; there was pain on pressure; this pain was most severe at one point, from which it radiated in every direction over the abdomen; there was no external mark of injury; the pulse was small, the countenance collapsed, and expressive of anxiety; the sense of internal suffering and misery was strongly marked in the sunk features. I directed the application of leeches and warm fomentations to the abdomen; enemata to be thrown up; aperient pills to be administered, and, if the pulse rose, venesection to be performed, which was done. No relief was obtained; the symptoms became more and more exasperated, and she died on the following morning, twenty-seven hours after the injury was inflicted. The examination of the body after death shewed extensive peritonitis. The intestines were agglutinated together, and there was in the peritoneal sac a quantity of fluid containing flocculi of lymph. There was a rupture in the parietes of the ileum, and through the aperture the fæces had passed into the peritoneal cavity.

"It is worth while to consider why the intestines so often escape injury when blows are inflicted on the abdomen. I think this may be referred to the resistance of the muscles of the abdomen, and the yielding and gliding away of the intestines. In the present case, the abdominal integuments and muscles had been extremely attenuated; there was but a trace of muscular fibres, and consequently the abdominal parietes had not their usual power of resistance. In the other cases I have seen or read of it was the jejunum or the duodenum that was injured, which is probably to be ascribed to their being more fixed than the ileum. As to the diagnosis of ruptured intestine, it is by no means certain, the obvious symptoms being those of the consequent peritoneal inflammation; but perhaps it may be inferred from the presence of acute pain radiating from one point to the whole of the abdomen, the vomiting immediately on receiving the injury, the effects of sympathy on the other great systems, which, together with the history of the case, may render its true nature distinguishable.—18th February, 1844.

14. *Cancerous Disease of the Colon*.—Mr. Robert W. Smith exhibited a specimen of cancerous degeneration of the colon, taken from the body of a female, aged 50, who had been for three years previous to her death subject to great irregularity of the bowels, evidenced by frequent attacks of constipation, succeeded by diarrhœa. One year before her death, she had a most obstinate attack of constipation,

accompanied by severe colic pain and high fever. The constipation at last yielded to a large dose of croton oil, but was succeeded by a severe and painful diarrhoea. Six months afterwards a similar attack took place, and upon this occasion she voided large quantities of blood, and of a substance like lymph; at this period a tumour, firm and painful to the touch, was felt in the right iliac fossa, in the vicinity of the caecum: under these repeated attacks she became hectic and emaciated. She had cough, and latterly complained of pain in the side and dyspnoea. She died of an attack of pleuro-pneumonia. The examination of the body detected a copious effusion into the pleura. There was also pneumonia. Several white cancerous tubercles were found in the lungs and liver; there was also retention of urine in the kidney, owing to compression of the ureter of the right side by a cancerous tumour, formed by lymphatic glands; the termination of the caecum and beginning of the colon, presented a well-marked specimen of cancerous degeneration; the coats of the intestine were much thickened; the mucous membrane presented an appearance quite similar to that delineated by Cruveilhier, in his plates of areolar cancer; the tube of the intestine was contracted, and the caput coli dilated.—(*Museum, Richmond Hospital*).—22nd February, 1844.

15. *Perforating Ulcer of the Stomach*.—Mr. Scallan detailed the following case:—A female servant aged 40, on the 28th February, 1844, was seized shortly after breakfast with severe pain, commencing in the epigastrium, and quickly extending over the entire abdomen, accompanied with vomiting, and immediately followed by symptoms of great prostration. I saw her about six hours afterwards; she had then taken a draught containing Hoffman's Anodyne and laudanum, yet she still presented all the symptoms of great collapse, and complained, when roused, of pain over the entire abdomen, with tenesmus: the abdomen was extremely hard, much swollen, and intolerant of pressure. On considering the symptoms, the suddenness of their accession, and rapidity of their progress, with the great state of collapse to which the patient was so suddenly reduced, there was but little difficulty in concluding this to be a case of peritonitis, caused by perforation of some portion of the gastrointestinal tube.

The treatment pursued was total abstinence from every thing calculated to act on the bowels, heat to the extremities, and a sinapism to the abdomen. Reaction having been by these means established, she complained of internal pain in the left hypochondriac region: the slightest pressure producing exquisite torture, the pain over the remainder of the abdomen remaining unmitigated; a few leeches were applied to the left hypochondrium, and opium in substance administered: after a short time she again fell into a state of collapse, and died in the course of the night, about fifteen hours after the commencement of the attack.

It was a remarkable fact in the history of this case, that, about a fortnight previously, an attack almost in every respect similar, only much less severe (vomiting being absent, and the pain being confined

to the epigastrium and left hypochondrium), occurred after dinner, and yielded to the administration of one dose of Hoffman's Anodyne and laudanum; the patient having been restored after a few hours to apparently perfect health, and remaining, according to the statement of her friends, during the intervening fortnight, in a much better state of health than she had enjoyed for some years.

Autopsy, ten hours after death. On opening the peritoneal sac, a quantity of fetid air escaped; both surfaces of the peritoneum presented one continued layer of thick purulent matter, with greenish lymph; when this was removed, the vessels of the peritoneum beneath it were found minutely injected; about a pint of sero-purulent matter was found in the cavity of the peritoneum, mixed with the fluid contents of the stomach, which had escaped through the perforation: the surface of the liver was also coated with a quantity of lymph and purulent matter. On examining the cardiac extremity of the stomach, a small opening about a quarter of an inch in diameter was detected, rendered somewhat indistinct by the lymph effused around it, and which adhered firmly to the peritoneal coat.—*2nd March, 1844.*

16. *Abscesses in the Liver; Ulceration of the Intestines.*—Mr. R. W. Smith presented a specimen of abscesses of the liver, which were not indicated by symptoms during life, at least so far as the history of the case was known. The subject was a man who had been a patient at the Talbot Dispensary, was afterwards in Jervis-street Hospital, and lastly in the Whitworth Hospital. During the last three months he was constantly suffering from gastritis and gastro-enteritis. He had incontrollable dysentery, but voided no blood; frequent vomiting, pain in the epigastrium, but never complained of pain in the hypochondrium, nor in the shoulder, had no jaundice, no rigors, nothing which could lead to the belief that hepatic disease existed. The dysentery resisted all remedial means. He gradually became worse; singultus came on, and death took place. On examining the abdominal viscera it was found that the great intestine was ulcerated extensively. The ulcers were of various sizes, and occupied the mucous coat in the whole extent of the periphery of the canal. Some had an erysipelatous aspect, some an ash-coloured surface. In the stomach there were signs of chronic gastritis. The mucous membrane was vascular and softened. The liver was full of abscesses: a very large one was in the right lobe. This was lined with a strong dense membrane, forming the sac of the abscess. In the left lobe were three abscesses. The first of these that was cut into had no sac, but was surrounded by the substance of the liver, with which the purulent matter was in contact. The second also was without a distinct sac. The third, which might be termed a dissecting abscess, was bounded by the diaphragm anteriorly, and by the stomach posteriorly, and had separated the peritoneal from the other coats of the stomach. The formation of abscesses in the liver, without symptoms of hepatic disease, has been lately noticed in cases of dysentery.—*6th April, 1844.*

17. *Cancerous Degeneration of the Liver.*—Dr. Corrigan presented

specimens and a cast of a case, which, he observed, throws light on the obscurity which attends the precise determination of the time within which cancerous disease may acquire a great extent of growth. Cases have occurred in which it would have been very important to ascertain this: for instance, disputes arising out of the insurance of lives. He had known a case of this kind, in which a very rapid formation of malignant matter had occurred, which was not discovered until after death; and the question then arose, whether it had existed a few months previously, when the medical examination was made, and the insurance effected? The present case was conclusive as to the possibility of a large amount of disease being developed within a very short period. The subject of it, a female, aged 35, was admitted into the Whitworth Hospital on the 20th of March, 1844, complaining of a large painful tumour in the right side. The liver felt nodulated. Her countenance was of a dusky hue, but she was not jaundiced. This woman was the mother of eight children, and described herself to have been in good health up to six months ago, when, in an accidental fall over a bucket, she struck the right side, and had ever since felt pain in it. The pain was at first what the common people designate "a stitch," and after it had continued a month she perceived a swelling in the situation of the pain, which gradually increased till a hard tumour could be felt along the false ribs of that side. She lived but thirteen days after her admission. On opening the abdomen the liver was discovered enormously enlarged, but containing such a large mass of cancerous matter, that but little of the natural structure remained. This appearance was shewn in the cast. Dr. Corrigan considers it probable that a small portion of this diseased structure may have existed before the injury was received; but he believes that no examination could have detected it previous to that occurrence. The progress of the disease had been exceedingly rapid, yet the patient was able to work at her usual employment until six weeks ago. He is of opinion that the growth of such malignant matter goes on without any interruption, while the patient is under the influence of mercury, and is perhaps accelerated.—*20th April, 1844.*

18. *Strangulation of the Intestines by Bands of firm cellular Structure, crossing the Peritoneal Sac in several Directions.*—Dr. Corrigan produced recent specimens of a case of fatal ileus, produced by bands crossing the peritoneum in various directions, resembling a tangled cord. The subject, a male, æt. 22, a shoemaker, was suddenly seized with acute pain in the abdomen, while he was at work, on the 25th of November; from that up to his admission into hospital, on the 27th, his bowels continued obstinately confined. The pain was still very severe, and, with the view of relieving it, he leaned forward and pressed with his hands on the abdomen; the pulse was small; the countenance sunk and anxious; the abdomen was tympanitic along the region of the colon. The first means adopted to relieve him, were a terebinthinate enema, and warm fomentations to the abdomen: the enema was immediately returned. Mr. M'Dermott then tried Dr. O'Beirne's tube, and meeting with obstruction

to its passage, he introduced his finger and ascertained that the parietes of the rectum were compressed together by coils of small intestine; a large enema was then thrown up, and to aid it Mr. M'Dermott elevated and supported the pelvis; this did not immediately succeed, but during the night the bowels were opened sixteen or seventeen times. On the next day, the 28th, faecal vomiting came on, and death soon occurred. The temperature of the body rose considerably after death, as has been often noticed in persons dying of apoplexy. The examination of the abdominal cavity after death explained the failure of the remedial means. The peritoneal sac was found to be traversed by numerous firm bands like cords, which crossed it in various directions, and had strangulated the intestinal tube, which, though obstructed, was not yet gangrenous. The death was therefore attributable not so much to the amount of the organic injury which as yet had taken place, as to the interruption of the peristaltic motion. Similar bands had been previously observed in other cases, and their nature and origin were inexplicable till Professor Harrison discovered that they were in many cases the omphalomesenteric vessels of the embryo, still abnormally remaining, but converted into ligamentous bands.—*Nov. 30th, 1844.*

19. *Gun-Shot Wound of the Liver.*—Dr. Bigger said he had to lay before the Society a preparation illustrative of the effects of an accident not very rare, but of which no specimen had been as yet communicated at any of their meetings. The injury in this case was a gun-shot wound, of which he should read the history from his notes. James Mills, aet. 38, a gardener, was incautiously drawing a loaded fowling piece from among some bushes, with the muzzle towards himself, when it exploded, and inflicted a wound on his abdomen, which proved fatal in eighteen hours after the receipt of the injury. Notwithstanding the wound, the man was able to walk to the stables, two hundred yards distant. Surgeon Heffernan, of Bray, saw him soon afterwards, and, after a short interval, was joined by Dr. Bigger. The wound was situated above and to the left of the umbilicus, from which it was about two inches distant. The external orifice, which was of the size of a shilling, was already closed by coagula. Surgeon Heffernan thought that in tracing the trajet with his finger, it had passed into the peritoneal sac. Dr. Bigger afterwards examining it with a probe, found that its course was oblique, but he could not trace its entire extent. The patient lay on his back, his countenance was sunk, and the pulse was very feeble. He complained of severe pain in the right shoulder, and was unable to pass water; he made some attempt to vomit, but was able to take drink and some small quantity of food, both of which were retained, from which it was thought that the stomach had not been injured: he preserved his senses to the last. When the body was examined after death, the abdomen was already tumid and discoloured. Within the cavity some blood had been extravasated, and there were some traces of inflammation on the serous coat of the intestines. The whole

course of the wound was now explored. It was found that the shot, after penetrating the integuments and muscles of the abdomen in a direct course, passed in an oblique direction among the muscles for six inches, and then, wounding the peritoneum, entered the liver at the lower margin of the left lobe, through which, ploughing up the substance of the liver, it passed onwards into the right lobe, from which, separating the gall-bladder from its attachment, but without injuring either it or the ducts, it passed out into the peritoneum. The shot, which were flattened, were found with a bit of woollen cloth, lying on the duodenum. The stomach was uninjured; there was no lesion of any of the intestines.—14th December, 1844.

20. *Malignant Deposition involving the Head of the Pancreas, and occupying the mesenteric Glands; Ulcer of the Stomach, near the Pylorus; Malignant Deposition in the Liver; Oil in the Fæces.*—Professor Greene presented specimens of malignant structure, the cephaloma of Carswell, affecting several of the abdominal viscera of a male aged 37, who was admitted into Sir P. Dun's Hospital, a month previously. This patient described his illness to have commenced three years ago, with obscure pain in the epigastrium, and towards the right side; to this supervened nausea, acid eructations, and dark-coloured vomiting, which ceased for some time, and then returned. The discharges from the bowels now became dark-coloured; the action of the heart became very violent, and an extreme sense of anxiety was referred to the præcordial region; these symptoms simulated disease of the heart, but there was no bruit discovered. He was from time to time in various hospitals, but without any benefit, except the temporary palliation of the symptoms; when he came under Dr. Greene's notice, at Sir Patrick Dun's, he was completely cachectic and broken down; the conjunctivæ, although he was not jaundiced, had the peculiar dusky appearance which so usually accompanies structural disease. The glands of one side of the neck were enlarged, but not indurated; there was pain in the epigastrium, but no tumour; and in the right hypochondrium there was pain, deep pressure detected an obscure tumour. There was no cough; the respiration was regular; and, only after inspiration, could a dulness be perceived in the right mammary region; there was frequent vomiting, and copious dejections of a very dark colour. On carefully examining these, oil was discovered floating on the surface of the fæces; this was itself a remarkable appearance. The patient had not taken any oil, and Dr. Bright, who also has observed this symptom, considers it to be often connected with malignant disease of the duodenum and pancreas. [*Vide* Guy's Hospital Reports, vol. iii.] In the present case the symptoms were obstinate to treatment, and Dr. Greene considered that it was probably an instance of malignant disease of the stomach or liver, perhaps both. When the body was examined after death, a malignant product was found developed here and there in insulated masses, in the tissue of the liver; the ducts were free, and there was no ascites; there was

nothing morbid to be observed on the surface, or along the edges of the liver, except at one point. Here Dr. Greene referred to a case and exhibited a cast of abscess in the liver, caused by mechanical irritation of these tubercles. In the stomach a large ulcer was found in the pyloric extremity. It was the opinion of Cruveilhier, that the coffee-coloured vomiting is produced by blood exuded from the capillaries of the stomach, coming into contact with the free muriatic acid of the gastric juice. The head of the pancreas was engaged in a mass of cephalomatous structure; the mesenteric glands contained a similar matter, and there were some appearances of it on the kidneys: there was no morbid deposit in the lungs. Dr. Greene, from what he had observed in a former case, thought it probable that some tumour would be found in the posterior mediastinum, but none could be detected; the heart and its valves were in the normal state; it was therefore evident that the symptoms referred to the heart were only functional. Dr. Greene has arrived at the opinion that the action of the heart is liable to be disturbed by abnormal deposition in any part of the body. The appearance of oil in the fæces, although rare, is yet one concerning which there is much difference of opinion. Dr. Prout connects it with organic disease of the kidney; Dr. Elliotson with diabetes and phthisis; Dr. Bright with malignant disease of the duodenum and pancreas; while on the contrary a case is described by Tulpins in which fat was abundantly excreted along with the fæces without any obvious derangement of health.—21st December, 1844.

21. *Enlargement of the Costal Cartilages, consequent on Disease of the Lung.*—Dr. Law exhibited a specimen of hyperchondrosis of the costal cartilages occurring under circumstances nearly similar to those observed by Dr. Stokes, as producing hyperostitis of the ribs. Dr. Stokes observed the increased growth of the ribs to take place in empyema. In the case adduced by Dr. Law, cirrhosis had reduced the lung so much as to make it resemble a mere rudimentary organ. The subject of Dr. Law's case was a female, aged ten years, who had measles two years before, in consequence of which the chest had never since been free from disease. The physical signs were, extreme dulness on percussion through all the anterior right side, up as far as the third intercostal space. Respiration was only audible under the clavicle. The patient died in Sir Patrick Dun's Hospital, and an examination of the body proved the dull sound to depend on the liver, which ascended much higher than usual. The right lung occupying the upper part of the chest had undergone a remarkable diminution of size. It was converted into a bright fibrous mass, without any vestige of its proper vesicular structure. The costal cartilages were closely approximated from the almost complete annihilation of their interspaces. When compared with the cartilages of the opposite side, they exceeded them much in size.

22. *Deposit of Bone in false Membranes, as a protective Effort of Nature.*—Dr. Law also exhibited a portion of the false membrane that lined the pleural cavity, in a case of empyema, which occurred after

fever. In this membrane, in the portion of it that invested the ribs, plates of bone were found. Dr. Law attributed this formation of bone, the increased growth of the cartilage, and also that of the ribs, to the same cause that produces hyperostetitis in the portion of the cranium corresponding to a deficiency of the cerebral substance, many examples of which had been brought under the notice of the Pathological Society by Mr. R. W. Smith, and this cause he conceived to be the undue atmospheric pressure, arising out of the constitution of the internal organs, no longer contributing their share towards the counterpoise of this pressure, which, affecting these other tissues, produced in them an increased growth, to meet the emergency; and in one case imparted an ossific deposition to the portion of the false membrane more directly exposed to this pressure.—21st December, 1844.

RETROSPECT

OF THE PROGRESS OF CHEMICAL SCIENCE DURING THE PAST HALF YEAR.

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Introductory Remarks.—The rapid advance of chemical discovery demands an incessant attention on the part of all those with whose pursuits it interferes. If the last century was a mathematical, this may be considered the chemical age. The achievements which chemical science have already effected are calculated to astonish; those which will be accomplished, the imagination fails to conceive. Every department of human industry is in the act of being revolutionized by chemical power. From whatever point of view we contemplate the busy acts of men, we find them under the control of this active and growing agency. The agriculturist, manufacturer, merchant, traveller, soldier, physician, statesman, all classes of society, are indebted to the teeming discoveries of the chemist. It is from his laboratory have proceeded, the gunpowder which has altered the character of war, the inventions which have facilitated the arts of peace, the manures which have renewed exhausted soils, the medicines which have restored health to the diseased, and the engines which have drawn together distant empires. It is no wonder, therefore, that the progress of chemistry should be viewed with deep interest, and that its cultivation should be pursued with energy.

There is no branch of human knowledge more closely interwoven with the successful progress of chemistry, than that of medical science. Physiologists have dreamed, pathologists have inspected, and pharmacologists have speculated; but it is only by the aid of chemistry that medicine can ever acquire that certainty, which can alone satisfy a philosophic mind. Chemistry has already commenced a revolution in physiological science. It has already demonstrated, that all the vain bab-

blings about digestion, assimilation, and hematogenesis, are concerned about mere phantoms: that the animal does not make his blood, but receives it ready manufactured from the vegetable; that chymification consists simply in the solution of this blood; and that chylification only exists in imagination. Chemistry has shown, that in place of an animal forming the materials of his tissues, the result of his functions is to cause their destruction; that the air he breathes is constantly burning him away; and that the products of this combustion are analogous to those which would be produced by putting him into a furnace. It has demonstrated, moreover, that the moving power of an animal is as necessarily the result of this combustion, as the working of a steam-engine is the consequence of the burning of the coals supplied to it. These are a few trophies of the triumphs which chemistry has already achieved in the domain of physiology. They herald the coming train of more valuable, because more practical, applications.

As we examine the progress of chemistry, we may perceive that this science is itself rapidly undergoing a great change. The old ideas with respect to acids, bases, and salts, are quickly disappearing. The hypothesis of polarity, that has so long existed under different forms, is found to be inapplicable to many new compounds. At the same time, the distinctions between inorganic and organic compounds are rapidly fading. The sulphazotic bodies, and the compounds produced by the action of chlorine on the sulphuret of carbon, display how untenable is the line of demarcation which has been attempted to be drawn between these groups; and the observation by Schmidt (*Zur vergleichenden Physiol. der wirbellosen Thiere.*), that the cellular tissue of radiated animals is composed of the same chemical principles as that of vegetables, has still further tended to dissolve the partition between animal and vegetable chemistry.

Estimate of Caloric evolved during Chemical Action.—The determination of the quantities of caloric disengaged in the combustion of different kinds of matter, has for a long time engaged the attention of natural philosophers. Lavoisier and Laplace, Crawford, Rumford, Hassenfratz, Desormes, Ball, Welter, Berthier, Despretz, Dulong, and others, have experimented on this subject, which, notwithstanding the thought and labour expended in its investigation, is still involved in considerable obscurity. Doctor Grassi, in a thesis which he lately presented to the Academy of Sciences, has sought to unravel some of its intricacies. His method of experimenting consisted in burning a fixed quantity of the combustible in an atmosphere of oxygen, and determining the amount of caloric evolved, by its effect in raising the temperature of water. The apparatus consisted in two metallic globes, the one contained within the other: the inner being employed for the combustion to take place in: the space between the inner globe and the outer was filled with water, by whose increase of temperature the disengaged heat was measured. Count Rumford's precaution against radiation was

invariably adopted in these experiments: this precaution consists in commencing the experiment, the temperature of the outer globe and water being a certain number of degrees below that of the surrounding objects; and terminating it, when the water and external globe exceed those bodies in temperature an equal number of degrees. Under these conditions, the absorption which takes place when the external globe is *minus*, exactly compensates the radiation when its temperature is *plus*.

The quantity of caloric selected by M. Grassi as a standard of unity in these experiments, consisted of the amount necessary to raise the temperature of a *gramme* of water 1° of the centigrade thermometer. It is evident that this measure is perfectly arbitrary, and liable to vary at different temperatures, as it requires less caloric to raise a given weight of water 1° at a low temperature, than it does at a high one: yet care being taken to commence and terminate the experiments at the same point, the mean of each series may have furnished results sufficiently trustworthy for comparison.

The following are the mean numbers arrived at by M. Grassi, for the comparative quantities of caloric given out during the combustion of equal measures of different gases and vapours:

Hydrogen	3120.
Vapour of Carbon	8337.
Carbonic Oxide	2358.
Light Carburetted Hydrogen	7946.
Olefiant Gas	10756.
Oil of Turpentine in vapour	68349.
Vapour of Alcohol	13740.
Vapour of Pyroxylic Spirit	8502.

The comparison of equal weights afforded the following numbers:

Hydrogen	34666.
Carbon	7714.
Oil of Turpentine	10496.
Alcohol	6556.
Pyroxylic Spirit	5839.

M. Hess had already established the law, that "a chemical combination taking place, the quantity of heat disengaged is constant, whether the combination occurs directly, or indirectly, and at several stages."

Now, M. Grassi argues that the quantity of heat evolved in the combination of one equivalent of carbon, and two of oxygen, must be the same, in accordance with the foregoing law, whether the carbon burns directly in oxygen gas, or, in the first instance, combines with one atom of oxygen to form carbonic oxide, and then with another to produce carbonic acid. Carbonic oxide contains half its bulk of the vapour of carbon; for a volume of the vapour of carbon, you must therefore take two volumes of carbonic oxide, which in their combustion will yield $(2358 \times 2) = 4716$ of

caloric. But, a volume of the vapour of carbon combining directly with the maximum quantity of oxygen, gives 8337 of caloric. Therefore, $8337 - 4716 = 3621$ must represent the amount of heat evolved in the production of carbonic oxide. It follows that when one atom of carbon unites with one atom of oxygen, the caloric given out may be represented by 3621; whilst union with another atom affords 4716. These calculations demonstrate that no simple relation, as Hess supposes, exists between the quantities of heat evolved, when two bodies combine in many proportions.

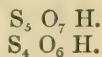
Another deduction capable of being drawn from an examination of the foregoing tables is, that compound combustibles do not afford as much heat in combustion, as their elements when uncombined. Thus, light carburetted hydrogen gives 7946 of heat; but M. Grassi shews that if the carbon and hydrogen which it contains were burned separately, they would yield 10403.1: olefiant gas gives 10756; its elements separately would afford 14657.4. The vapour of turpentine yields, according to the table, 68350; the constituents, if burned alone, would give a sum equal to 70231.

This fact is sufficient to overthrow all the calculations which have been hitherto made on the quantities of heat evolved during animal respiration. These calculations, especially those of M. Liebig, have been founded on the supposition that carbon and hydrogen, when combined, evolve just as much heat by their oxydation as when burned separately. We have seen that this is an error.

New Acids of Sulphur.—Up to the present time, we have been acquainted with eight oxacids of sulphur: viz.

Anhydrous Sulphurous Acid	. . . . .	S	O ₂
Anhydrous Sulphuric Acid	. . . . .	S	O ₃
Hydrated Sulphurous Acid	. . . . .	S	O ₃ H
Hydrated Sulphuric Acid	. . . . .	S	O ₄ H
Hypo-sulphurous Acid	. . . . .	S ₂	O ₃ H
Hypo-sulphuric Acid	. . . . .	S ₂	O ₆ H
The Acid of M. Langlois	. . . . .	S ₃	O ₆ H
The Acid of MM. Fordos and Gelis	. . . . .	S ₄	O ₆ H

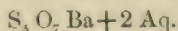
In the "Comptes rendus de l'Académie," xxi., page 473, there is an announcement from M. Plessy of the discovery of two new oxacids of sulphur, which he says are possessed of the following composition:



The latter may be seen to possess the same composition as the acid of Fordas and Gelir.

M. Plessy procured these new acids by the action of sulphurous acid on the chlorides of sulphur. He continued to pass sulphurous

acid gas through water, as long as it was dissolved, and then added some bichloride of sulphur. Again, sulphurous acid was passed through the liquid, and bichloride of sulphur again added: this was repeated several times. The liquid was then boiled down to one-half, and when cold, saturated by means of carbonate of lead. It was then filtered, and the residual chloride of lead well expressed; from the filtered liquid the oxide of lead was precipitated by sulphuric acid; and after a new filtration, it was boiled and saturated by carbonate of barytes. Again filtered, the combination of the new acid with barytes was thrown down by the addition of alcohol and ether. The foregoing process yielded a salt composed of

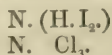


By a nearly similar process, excepting that the protochloride of sulphur was used in place of the bichloride, M. Plessy obtained the second acid in combination with barytes. The composition of this latter salt is $S_3 O_6 Ba + Aq$.

The acid first mentioned, ($S_3 O_7 H$.) does not precipitate solutions of zinc, copper, or iron. It forms, in a solution of proto-nitrate of mercury, a persistent yellow precipitate; it does not alter a solution of corrosive sublimate. With nitrate of silver, there is produced a fine yellow precipitate, which rapidly passes into a chocolate brown.

We have not sufficient materials to enable us to judge whether the second acid described by M. Plessy be really distinct from that already described by MM. Fordos and Gelis: and, indeed, we may be permitted to remark, that the reactions discovered by M. Plessy require much further investigation to render them intelligible.

The Iodide and Chloride of Nitrogen.—Chemists have hitherto been uncertain as to the result of the behaviour of ammonia with chlorine and iodine. Some supposed the products to be chloride of nitrogen and iodide of nitrogen; others regarded them as compounds of the electro-negative elements, with amidogene. M. Bineau^(a) has, however, succeeded in dispelling this obscurity, by accurate analyses, and has shewn that these compounds belong to the same molecular type with ammonia, in which hydrogen is either wholly or in part replaced by chlorine or iodine. Their formulæ are as follow:



The Sulph-azotised Bodies.—M. Fremy has given this name to a series of very remarkable compounds, produced by the action of sulphurous acid on the hyponitrites. It is known that organic substances are formed, in general, by the combination of carbon, with three other elements, which are oxygen, nitrogen, and hydrogen. But what constitutes the peculiar interest of the sulph-azotised bodies, is that in them we perceive a series of bodies similar to

(a) *Annal. de Chim. et de Phys.*, xv., 71.

organic substances, in which the carbon is replaced by another element.

In fact, M. Fremy has discovered, that sulphur can, like carbon, combine itself in a great number of proportions with hydrogen, azote, and oxygen, to form new compounds, which present a certain analogy with organic substances, and which correspond in some respects with azotised organic substances.

These sulph-azotised bodies may be either neutral or acid. In his last memoir read before the Academy, M. Fremy has confined himself to the description of the acids belonging to this group. In former communications, four new classes of salts had been noted, the *sulph-azotites*, *sulph-azotates*, *sulph-ammonates*, and *sulph-amidates*: in the recent memoir, several acid compounds have been added to those previously known. Thus sulph-azotous acid is capable of uniting with sulph-azotic acid, and forming a compound, named by M. Fremy *meta-sulph-azotic acid*. The neutral sulph-azotate of potash, when permitted to continue in an aqueous solution, gradually undergoes decomposition, and generates, in the form of fine hexagonal plates, a salt, containing a distinct acid, which M. Fremy calls *sulph-azidic acid*: this substance can be isolated; and when added to peroxide of manganese, causes, like peroxide of hydrogen, a copious disengagement of oxygen gas. Thus the class of bodies, of which peroxide of hydrogen is the type, is found daily to increase, a class of which M. Thenard long since predicted the importance.

The sulphazotates also undergo decomposition under the influence of oxidating bodies. When sulphazotate of potash is treated with brown oxide of lead, or with oxide of silver, the liquid acquires a magnificent violet tint, and the oxide immediately becomes reduced. By the acquisition of oxygen, the sulphazotate is decomposed into two new salts. The first is difficultly soluble in cold water; it crystallizes in long crystals of a golden yellow colour, and dissolves in hot water, affording a violet solution, approaching in appearance to permanganate of potash. This salt M. Fremy calls *sulph-azilate of potash*.

The second salt is very soluble in water; it crystallizes in rhomboidal prisms, of a perfect regularity; it is remarkable on account of its great stability. Nitric acid, which, in general, decomposes the sulph-azotic bodies, exercises no action on it. It has been called the *meta-sulph-azilate of potash*.

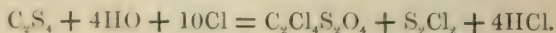
The sulph-ammonate of potash, like the sulph-azotate, gradually decomposes in a watery solution, becoming acid, and giving origin to bi-sulphate of potash, and a new salt, called the *meta-sulph-ammonate of potash*. This salt has little stability, losing in boiling water one equivalent of bi-sulphate of potash, and becoming converted into another salt, the *sulph-amidate of potash*. By a prolonged ebullition, this latter salt is decomposed, sulphurous acid being disengaged, and sulphate of ammonia, and sulphate of potash, remaining in the liquid.

The following Table represents the composition of this remarkable series of compounds :

Sulph-azous acid,	$S_4N\ H_2O_{12}$
Sulph-azic acid,	$S_4N\ H_3O_{14}$
Meta-sulph-azic acid,	$S_7N\ H_6O_{26}$
Sulph-azotic acid,	$S_3N\ H_4O_{16}$
Meta-sulph-azotic acid,	$S_8N\ H_6O_{28}$
Sulph-azilic acid,	$S_1N\ H\ O_{12}$
Meta-sulph-azilic acid,	$S_6N\ H_3O_{20}$
Sulph-azidic acid,	$S_2N\ H_2O_7$
Sulph-ammonic acid,	$S_8N\ H_3O_{22}$
Meta-sulph-ammonic acid,	$S_6N\ H_3O_{16}$
Sulph-amidic acid,	$S_1N\ H_3O_{10}$

Amongst other alterations from the original formulæ, we perceive that M. Fremy has, in his last Memoir, subtracted an atom of oxygen and added an atom of hydrogen to the sulph-azotic, and sulph-ammonic acids. This change renders their formation intelligible, which was not the case with their previous formulæ, as we pointed out on a former occasion (see *Dublin Hospital Gazette*, Nos. III. and XIII.)

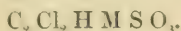
Products of the Action of Chlorine on the Sulphuret of Carbon.—M. Kolbe has presented, in this Memoir ("Annal. der Chemie und Pharm. liv., p. 145), a series of the most brilliant illustrations of the laws of substitution that have hitherto been brought forward. To render this series intelligible, our readers will please to recollect that methyllic ether, the basis of pyroxylic spirit, is composed of C_2H_5O . This compound, when subjected to the action of chlorine, becomes C_2Cl_5 , in which the whole of the hydrogen and oxygen are replaced by chlorine. When charcoal is ignited in an atmosphere of the vapour of sulphur, an analogous compound is formed, C_2S_4 : which is a volatile liquid. When dry chlorine gas is passed through this liquid, this element unites with both sulphur and carbon—producing chloride of sulphur, and chloride of carbon (C_2Cl_4). This latter compound, when its vapour is subjected to a red heat in a tube, is decomposed into the perchloride (C_4Cl_6) and the protochloride (C_2Cl_2), with the evolution of chlorine gas. With moist chlorine gas, the reaction is different, and has already been investigated by MM. Berzelius and Marcet. Under these circumstances, the following equation will represent the changes which take place:



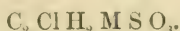
The compound $C_2Cl_4S_2O_4$ is considered by M. Kolbe to be a sulphite of the chloride of carbon. It constitutes a white crystalline volatile substance, insoluble in water and acids, soluble in alcohol, ether, and sulphuret of carbon; the alcoholic solution is precipitated by water. It fuses at 135° ; and distills without change. Its odour is extremely penetrating, and easily recognized. It sublimes similar to camphor, in

small, rhombic, transparent crystals. In the dry state, it does not act on litmus, but when moistened, it reddens it in consequence of commencing decomposition. The density of its vapour is equal to 7.43, corresponding to the formula pointed out. It supports a very elevated temperature, without decomposition; the vapour, however, when passed through a red hot tube, decomposes into sulphurous acid, chlorine, and a kind of chlorinated etherene, composed of C_2Cl_4 . When heated with a large excess of sulphuric acid, it decomposes into sulphurous acid, hydrochloric acid, and phosgene gas.

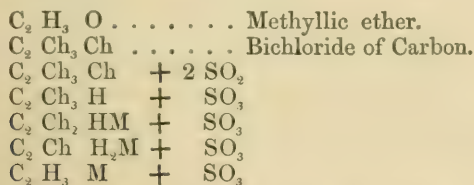
If this compound, represented by $C_2Cl_4S_2O_3$, in alcoholic solution, be subjected to a current of sulphurous acid, until it is no longer capable of being precipitated by water, a new compound is formed, consisting of $C_2Cl_3HSO_3$. The action of this compound, with metallic oxides, is very remarkable. Under such circumstances, one of the atoms of chlorine becomes replaced by an atom of metal, and a salt capable of being represented by the following formula is formed:



By the action of zinc on this salt, another atom of chlorine can be removed, and there are thus produced a series of compounds, having the formula



And lastly, by acting on a neutral solution of $C_2Cl_3HSO_3$, by a stream of voltaic electricity, using amalgamated zinc electrodes, the whole of the chlorine is removed without any evolution of gas, and a compound, $C_2H_3MSO_3$, becomes formed. We thus see a series of replacements effected, in the opposite direction to that indicated by M. Dumas, and in which chlorine becomes substituted by hydrogen and metals, atom for atom. Taking Methyllic ether as the type of the series, we have



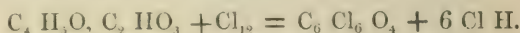
We do not attempt to give names to these compounds, as we doubt whether those given by M. Kolbe would be generally accepted in this country, namely, *Schwefligsaures Kohlensuperchlorid*; *Schwefligsaures Kohlenchlorid*; *Chlorkohlenunterschwefelsaeure*; *Chlorelaylunterschwefelsaeure*, &c.

Amylo-sulphuric Acid.—M. Blondeau de Carolles has rendered it probable that starch is capable of combining with sulphuric acid, and generating a new compound having acid properties. This probability has been converted into a certainty by the late researches

of M. Kalinowsky of Moscow(a), and M. Fehling(b). The proportions in which the combination takes place appear still, however, very uncertain: prolonged contact of the concentrated acid with the starch causing considerable variety in the results. The amylo-sulphuric acid, when diluted with water, very quickly decomposes into free sulphuric acid, dextrine, and sugar. Its salts are not crystallizable.

New cyanic Ether.—MM. Liebig and Wöhler find that when alcohol or ether is saturated with the vapour of cyanic acid, besides the body known under the name of cyanuric ether, and which deposits under the form of crystals, there is another compound formed which remains in solution in the supernatant liquid. This new body crystallizes in large prisms or transparent tables; it is very soluble in water, alcohol, and ether, very fusible, and very volatile. Its formula is $C_4 H_7 NO_2 = Cy O Ae O_2 Aq$. It is curious to observe that in its formation there is no elimination of water.

Chloroformic Ether.—M. Cloez has produced a compound by the reaction of the perchloride of formyl on alcohol. It is composed of $C_6 Cl_6 O_4$. It is formiate of the oxide of ethyl, in which all the hydrogen has been replaced by chlorine:



This ether, in contact with moist air or water, soon decomposes and becomes acid, becoming converted into hydrochloric, carbonic, and chloroacetic acids. The reaction is easy to understand:



The alkalis, in solution, give rise to a similar decomposition, producing a chloride, carbonate, and chloroacetate.

Ammonia gives rise to the formation of chloro-carbonic acid, which decomposes into carbonic acid and hydrochloric acid in contact with water; and there is at the same time produced a white insoluble matter, which dissolves in ether, and gives white crystals upon evaporation: this is identical with the chloracetamide also described by M. Malaguti.

Chloracetamide.—This new amide has been discovered simultaneously by M. Cloez and M. Malaguti. It is composed of $C_4 Cl_3 O, NH_2$: it is, in fact, a compound of chloroacetous acid (unknown), and amidogene. With alkalis it reacts in the usual manner of amides, evolving ammonia. It is insoluble in water, soluble in ether; crystallizes in pearly plates (derived from the right prismatic system—Malaguti). It fuses at 135° (Cloez), 138° (Malaguti), of Centigrade. We have already pointed out the method of its preparation according to M. Cloez. M. Malaguti made it by acting on ammonia by chloroacetic ether. (*Vide Comptes rendu de l'Academ.*

(a) *Journ. f. prakt. Chem.*, xxxv., p. 193.

(b) *Liebig's Annalen.*, July, 1845.

des Sciences, xxi. 69. *Journal de Pharmacie et de Chimie*, tom. viii. 3ième serie, p. 232. *Do.* p. 340).

Chloroacetic Acid.—M. Kolbe has pointed out two new methods of obtaining this compound. One consists in passing chlorine gas through the protochloride of carbon (Faraday), under water, till the liquid becomes strongly acid. If water be not present the protochloride will be converted into perchloride, upon which water has no action. The other method consists in oxidising chloral by nitric acid. In both cases the crystals of chloroacetic acid are to be obtained under an exhausted bell-glass, along with sulphuric acid to absorb the watery vapour. (*Annal. der Chemie und Pharm.* tom. liv. 181).

On Œnantilic Aldehyd.—MM. Bussy and Lecanu published a Memoir on Castor Oil in the year 1827, in which they demonstrated that this fixed oil, when subjected to a temperature 270° C. became decomposed into a spongy, porous fat, which remains in the retort, and a volatile oil that passes into the receiver, together with certain acids then for the first time described, and a little acroleine. The volatile oil that passes over has been the subject of a late memoir by M. Bussy(c). He considers this oil to be an aldehyd, forming an acid by oxidation. Its composition he has ascertained to be $C_{14}H_{14}O_2$. The density of its vapour is by experiment 4.1; by calculation 4.00770. When digested with water at a freezing temperature, it forms a crystalline hydrate. It is capable of absorbing 10 per cent. of its weight of oxygen, and thereby becomes acid. Nitric and chromic acids also oxidize it, converting it into *œnantilic acid*. The formula of the latter is $C_{14}H_{14}O_4 = C_{14}H_{13}O_3 + HO$. M. Bussy has examined the œnantilates of baryta, oxide of silver, &c. He gives the name of œnantol to the œnantylic aldehyd, after the analogy of acetol, cuminol, cinnamol, &c. He supposes it to be a hyduret of œnantile, a hypothetical radical, composed of $C_{14}H_{13}O_2$, analogous to benzoile. The relation of œnantilic acid to the acids of butter is not devoid of interest:

Butyric acid	$C_8 H_8 O_4$
Caproic „	$C_{12} H_{12} O_4$
Œnantilic „	$C_{14} H_{14} O_4$
Caprylic „	$C_{16} H_{16} O_4$
Capric „	$C_{20} H_{20} O_4$

Chinonic Acid, and Chinonamide(d).—M. Woskressensky, the original discoverer of chinone, has added the abovenamed members to the group of chinone compounds described by Wöhler. The acid is produced by simply mixing chinone with solution of potash, when gradually a lively action takes place, the liquor absorbs oxygen from the air, becomes brown, and at length deep black: from

(c) *Journal de Pharmacie et de Chimie*, t. viii. 3^e. Serie, p. 332.

(d) *Journal für praktische Chemie*, xxxiv., calc. iv. p. 251.

this solution acids throw down the *chinonic acid*, black, and similar to ulmic acid. Its composition is $C_{25} H_{18} O_{13}$.

The *chinonamide* is produced by passing ammoniacal gas through chinone; by degrees the liquid becomes green, and after a time beautiful emerald green crystals form ($C_{25} H_{24} N_4 O_6$).

Substances derived from Anisic Acid(e).—M. Cahours has followed up his researches on anisic acid. This compound, it may be recollected, is obtained by the action of dilute nitric acid on oil of anise. M. Cahours finds that there is at the same time generated a considerable quantity of a reddish yellow oil. By separative distillation this oil may be obtained distinct, and by washing with a dilute alkaline solution can be separated from any traces of anisic acid, when it has been found to consist of $C_{16} H_8 O_4$, bearing to anisic acid the same relation as hyduret of benzule to benzoic acid. It is a heavy liquid, of a density of 1.09, of an amber colour, and aromatic odour. It boils at $253^\circ C$; is sparingly soluble in water; but easily soluble in alcohol and ether. Concentrated solution of potash has no action on it in the cold, but dissolves it by ebullition with effervescence. Dry potash decomposes it with formation of the anisate, and evolution of hydrogen. Sulphuric acid dissolves it, but it is again thrown down upon dilution. Upon exposure to air it gradually becomes converted into anisic acid: nitric acid produces more rapidly the same change. M. Cahours names this substance the *hyduret of anisyle*.

Bromide and chloride of anisil can be formed by a reaction similar to the analogous compounds of benzule.

Anisamide can be produced by the action of ammonia on the hyduret of anisyle.

Besides the foregoing series of compounds M. Cahours has been enabled to isolate *anisic ether* ($C_{16} H_7 O_3 + C_4 H_5 O$). This is a liquid heavier than water, boiling at $250^\circ C$, insoluble in water, but dissolving in all proportions in ether and alcohol. And he has likewise obtained an *anisate of the oxide of methyl* ($C_{16} H_7 O_3 + C_2 H_5 O$): large white and brilliant scales, fusible at $47^\circ C$, and subliming without change.

Bromanisic and chloranisic acids, already described by Laurent, are examples of the replacement of some of the hydrogen of anisic acid, by chlorine and bromine.

Effects of Chlorine on Cinnamic and Benzoic Acids.—M. Stenhouse(f) has pointed out new relations between these acids. When chlorine is made to act at a boiling temperature on cinnamic acid, an oil containing chlorine becomes generated. This oil M. Stenhouse finds to be benzole, in which three atoms of hydrogen are replaced by three atoms of chlorine. At the same time benzoic acid is formed; and the chlorine acting upon it also, replaces atom after atom of its hydrogen by chlorine.

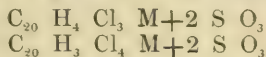
(e) *Annal. de Chim. et de Phys.*, xiv. 483.

(f) *Annal. der Chemie und Pharm.* lv. 1.

Amarine or Benzoline.—This compound appears to have been independently discovered by Laurent and Fownes. The former obtained it by the action of ammonia on the hyduret of benzule; the latter by boiling hydrobenzamide with a ley of potash for some hours. It is an alkali with salts remarkable for their slight solubility. The sulphate, hydrochlorate, and nitrate are crystallizable. Ammonia throws down the base from solutions of its salts in the state of a white coagulum, which dries into a powder that becomes electrical on friction. It is very soluble in alcohol and ether, insoluble in water. It crystallizes in quadrilateral prisms; fuses at 100° , and becomes vitreous on cooling. It is decomposed during distillation, giving off ammonia, and forming a very volatile oil with the odour of benzole, and a crystalline matter that condenses in the neck of the retort. This crystalline matter is called by Mr. Fownes *pyrobenzoline*: it is insoluble in water, and without alkaline reaction; it contains two atoms less hydrogen than amarine. The composition of the latter is $C_{42} H_{15} N_3$: it is therefore isomeric with hydrobenzamide.

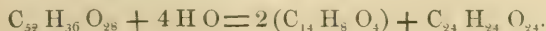
Compounds derived from Naphthaline.—M. Laurent is continuing his researches on these interesting bodies. He has determined the composition of sulpho-naphthalic acid to be $C_{20} H_8 S_2 O_6$. Sulpho-naphthie acid he finds to contain the same radical, and to consist of $C_{20} H_8 S_4 O_{12} + 2 \text{ aq.}$ To this latter acid he gives the name of *thionaphthie acid*.

But some of the most curious compounds lately examined by M. Laurent are acids belonging to the same type as the foregoing, but in which some of the hydrogen is replaced by chlorine. Thus, chloro-naphtalise ($C_{20} H_5 Cl_3$) has been united with sulphuric acid to form $C_{20} H_5 Cl_3 + 2 (S O_3)$. Chloro-naphtalose ($C_{20} H_4 Cl_4$) in a similar manner combines to form $C_{20} H_4 Cl_4 + 2 S O_3$. And these acids react on bases in the manner of hydracids, producing salts, whose formulæ may be expressed in the following manner:

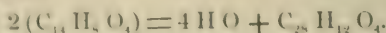


M. Laurent has formed similar sulphuric acids with bromo-naphtalise and bromo-naphtalose, and has even succeeded in procuring chloro-bromo-naphtalic combinations.

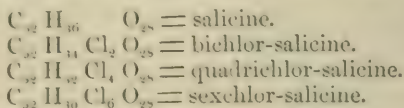
Derivatives from Salicine.—M. Piria, in continuing his researches on salicine, has discovered a series of very beautiful reactions (*g*). He has determined the composition of salicine to be $C_{32} H_{36} O_{25}$. When digested in water with synaptase (the nitrogenous ferment of almond seeds), it decomposes into glucose, and a substance called *saligenine* ($C_{14} H_8 O_4$). The decomposition may be represented by the following equation (taking glucose as $C_{24} H_{24} O_{24}$):



Saligenine, when heated with a dilute acid, readily transforms into a substance already known, *saliretine* ($C_{28} H_{12} O_4$). This change may be thus represented:

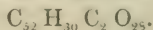


When chlorine is passed through salicine, suspended in water, according to the length of time that the action is continued, atom after atom of hydrogen becomes replaced by chlorine, and there is formed



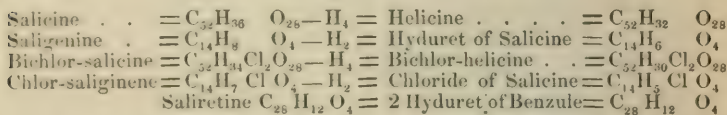
When bichlor-salicine is mixed with a solution of synaptase, a fermentation similar to what happens to salicine, under the same circumstances, takes place; but instead of saligenene, chlor-saligenene is formed ($C_{14} H_7 Cl O_4$).

By the action of very dilute nitric acid, salicine becomes gradually decomposed, and crystals of a substance called *helicine* are formed. This body is composed of $C_{52} H_{32} O_{28} + H O$. It is, in fact, salicine which has lost four atoms of hydrogen. When helicine is treated with synaptase, it ferments and generates glucose and hyduret of salicyl (oil of spiraea, $C_{14} H_6 O_4$). The dilute and boiling acids have the same action on helicine as synaptase. Chlorine and bromine, in their effects on helicine, replace the hydrogen of the latter, giving origin to *bichlor-helicine*, and *bibrom-helicine*, the formula of the former of which products may be given as an example:



These, when digested with synaptase, become resolved into glucose, and the chloride or bromide, as the case may be, of salicyl.

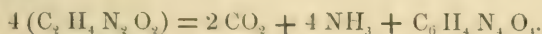
Thus we find these researches displaying two types, bearing the most remarkable analogies in their transformations. We shall shew these in a tabular form, which may render them more easily intelligible:



And thus we are transitionally led into the benzule series.

New Substance derived from Urea.—MM. Liebig and Wöhler mention, in a paper contained in the *Annal. der Chemie und Pharm.*, liv. p. 133, that upon submitting urea to gentle distillation, in place of cyanuric acid, a quantity of a white insoluble substance, is afforded, which is, however, very soluble in acids and alkalis, from which it is precipitated anew by neutralization. When heated in a dry state it is converted into meillon. Its composition

$C_6H_4N_4O_4$; the formula for its salts may be represented $C_6H_4N_4O_4 + M$. When urea is gently heated carbonate of ammonia and free ammonia are the only volatile products, and this new substance remains. The decomposition may be described by the following equation



M. Gerhardt (*Journ. de Pharm. et de Chim.*, Nov. 1845) considers this substance to be identical with ammeline.

Combinations of Urea with metallic Salts.—M. Werther has formed a number of these compounds into which the urea directly enters. Liebig long since made the observation, that the alcaloids unite directly with hydracids, but require an atom of water to enable them to combine with oxacids. The fact appears to be that an alcaloid will combine either with an hydracid or a hydrated oxacid, but not with an anhydrous acid. In these, as in other combinations, the hydrogen may be replaced by a metal; and thus combinations may be formed between an alcaloid and a haloid or amphide salt. In these respects urea resembles the alkaloids: we already know the muriate, oxalate, and nitrate of urea. M. Werther describes compounds of urea with chloride of sodium; of urea with chloride of mercury; of urea with nitrate of soda, &c. We shall give the formula of these salts:

$C_2H_4N_2O_2 + NO_6 + Ag =$ urea and nitrate of silver.

$3(C_2H_4N_2O_2) + NO_6 + Ca =$ urea and nitrate of lime.

$2(C_2H_4N_2O_2) + NO_6 + Mg =$ urea and nitrate of magnesia.

$C_2H_4N_2O_2 + NO_6 + Na + Aq =$ urea and nitrate of soda.

$C_2H_4N_2O_2 + Cl + Na + Aq =$ urea and chloride of sodium.

$C_2H_4N_2O_2 + Cl_2 + Hg_2 =$ urea and chloride of mercury.

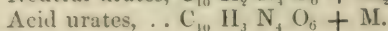
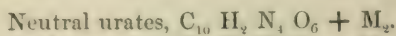
With respect to the properties of the foregoing salts, the most important appears to us to be the fact of their interfering with the quantitative estimation of urea, by preventing the usual reactions of this alcaloid with nitric and oxalic acids. Thus nitrate of silver prevents the precipitation of the whole of the urea by nitric acid; nitrate of lime completely prevents the precipitation of urea by nitric acid; nitrate of magnesia keeps some of the urea dissolved when nitric acid is added in excess, and will not permit oxalic acid to precipitate any of it; the double nitrate of urea and soda is precipitated by neither nitric nor oxalic acids; and, finally, a large excess of nitric acid has no influence on urea, if a sufficient quantity of chloride of sodium be present. The knowledge of these facts, shews us that we have hitherto, most probably, under-estimated the quantity of urea contained in urine, when several of these salts are either naturally present or produced by the method used for separating the alkaloid; and that hitherto an unsuspected fallacy may frequently have interfered with the detection of urea in the blood.

Composition of the Nitrate of Urea.—A controversy has lately ex-

isted as to the composition of the nitrate of urea. Dr. Prout, in a memoir published in the eighth volume of the Medico-Chirurgical Transactions, says, that it is anhydrous, and contains 47.37 per cent. of nitric acid. M. Regnault asserts that it contains 43.9 per cent. of nitric acid and 7.32 of water (a). M. Marchaud, invol. xxxiv. of the *Journ. für praktische Chem.* c. iv. p. 248, maintains that he has obtained 61.2 per cent. of nitric acid from it when dried at 110° C: and that at 140° C. it becomes anhydrous, and contains 64.3 per cent. M. Fehling (*Annal. der Chem. und Pharm.* lv. 249), confirms the analysis of M. Regnault. The same discrepancy exists as to the composition of oxalate of urea.

The only deduction we are justified in drawing from these very contradictory statements is, that, in the present state of our knowledge it is better to determine the urea in an isolated state, than by calculations based on salts of uncertain composition.

On the Composition of the Urates.—M. Bensch has published a most valuable memoir, completing the history of uric acid, and establishing the composition of its salts. The latter are either neutral or acid. Their composition may be expressed by the following formulæ:



Now when we remember that the composition of uric acid is $C_{10} H_4 N_4 O_6$, it will be at once seen that its acid salts are produced by the replacement of an atom of hydrogen by one of metal, and its neutral salts by two equivalents of metal replacing two of hydrogen. It is therefore bibasic.

Composition of the Hippurates.—It results from M. Schwarz's (b) examination of the hippurates, that no common formula can be given for these salts. Some contain one atom of acid; others two equivalents; and the quantity of water is extremely variable.

Zanthic Oxide.—M. Unger having been so fortunate as to discover zanthic oxide in some specimens of *guano*, has been enabled to study this substance with greater accuracy than chemists had previously been permitted to do. The method he pursued in extracting it from the *guano* was the following:—He first digested the *guano* with milk of lime, until the liquid no longer became brown upon ebullition, but merely acquired a yellowish-green tint: he then filters and neutralizes by hydrochloric acid, when the zanthine deposits, of a flesh colour, mixed with about an equal quantity of uric acid. He then separates the zanthine by boiling hydrochloric acid, which only dissolves the zanthine, and deposits, on cooling, a combination of this substance with hydrochloric acid. After purifying by a new crystallization, he separates the zanthine by ammonia. By this method from five to eight per cent. was obtained from the *guano*.

(a) *Annal. der Chem. und Pharm.* liv. 189.

(b) *Annal. der Chem. und Pharm.* liv. 29.

M. Unger finds the composition of zanthine, or, as it has been called, uric oxide, to be $C_{10} H_5 N_5 O_4$. This differs from the analysis made by Liebig and Wöhler, who found it to be $C_{10} H_4 N_4 O_4$. Both acids and alkalies dissolve zanthine, and form with it compounds of little permanence, which even water is sufficient to decompose(c).

MEDICAL MISCELLANY.

Effects of the Potato Disease in the human Subject.—The following cases and observations on the deleterious effects of diseased potatoes have been just communicated to us by Doctor John T. Banks, Physician to the Whitworth and Hardwicke Hospitals.

Bryan Gogarty, a labourer, aged 51, with three of his family, a girl aged 22, and two boys, one aged 14, and the other 5, were admitted into the Hardwicke Hospital on the 24th of December, 1845; they had been ill for six days before admission.

On Thursday, the 18th, Gogarty and his family, seven in number, breakfasted, dined, and supped on potatoes, which, according to his statement, appeared sound and good before they were boiled, but afterwards exhibited black spots, and fibres in their structure.

They were very sweet, in consequence of which (to use his own expression) “the children leaned very heavily upon them.” About an hour after breakfast, the father and three children experienced a sensation of uneasiness in the stomach, which soon amounted to pain, and extended to the abdomen, following the course of the colon; they also suffered from severe pain in the back, and difficulty in passing water. The other members of the family who ate of the same potatoes did not suffer in any respect, and this the father attributes to the fact of their having peeled the potatoes, and to their having removed the bad parts, a precaution which he himself and the three children had neglected to take.

Previously to their admission into the hospital they had all been under the care of Surgeon Maguire, of the Netterville Dispensary, who had treated them for constipation of the bowels and retention of urine: the usual remedies had, however, failed to produce any effect. The symptoms which were noted on their entering the hospital were the following:—the countenance was expressive of pain, and the features were sunken; shivering, coldness of the surface, swelling of the abdomen, with excruciating pain and tenderness on pressure; the region of the bladder was distended; the pulse was weak and rapid. Pain of an acute character was referred to the anus, which on examination was found perfectly patulous and exquisitely tender to the touch. Surgeon Maguire informed Mr. Birch, the clinical clerk, that two of the four patients had prolapsus ani when he saw them, which was probably caused by the violent and ineffectual efforts to discharge the contents of the rectum. There had not been

an evacuation from the bowels, nor had they passed water, except in drops, and with extreme suffering, for six days. On introducing the finger into the rectum, which caused acute pain, it was found that the intestine was completely filled, to within an inch of the orifice, with a solid substance. A peculiar and most offensive odour was immediately preceptible on approaching their beds.

Twelve grains of calomel were administered to the father and daughter, and eight to one and six to the other of the younger children; a hip bath was directed for each, and the removal by mechanical means of the contents of the rectum, and also the introduction of the long tube, by means of which warm water and oil were to be thrown up.

Mr. Birch removed an enormous quantity of the substance which was found in the rectum; it very much resembled the *debris* of apples after the cider had been expressed; its odour was remarkable, and was not in the least like that of fæces, and there was total absence of bile; it adhered very closely to the mucous membrane; portions of it were quite hard, and, as it were, glued to the folds of the intestine.

The catheter was introduced, and much urine, of a dark colour and disagreeable smell, drawn off. The girl would not submit to the operation of removing the hard masses from the rectum, but enemata were administered, and she passed balls which resembled horse-dung.

25th. All the males appear much better; the evacuations of the youngest are natural; the boys pass water freely; the father is still unable to do so without the aid of the catheter. The girl is somewhat feverish; she has submitted to treatment, and a large quantity of the substance before described was removed from the rectum, after which the long tube was easily passed up its entire length, and a purgative enema administered; she complained in the evening of cramps in the upper extremities; castor oil and turpentine, in the form of emulsion, was presented.

Towards the evening of this day, the father seemed very weak; the countenance was of a dusky hue; the surface cold, and the pulse so very feeble that it was deemed expedient to give stimulants; the evacuations passed involuntarily, and consisted partly of the substances mentioned above and partly of fluid feculent matter.

26th. The father much improved, his pulse stronger; no healthy evacuation; the use of the catheter still required. The girl also better, but continues feverish; the elder boy suffers a great deal from pains in the abdomen, his evacuations come away involuntarily, but they contain some feculent matter of a natural appearance. In each there is much tenderness of the anus, which has been kept constantly stuped with decoction of poppies; castor oil and Batley's sedative liquor of opium, were ordered.

27th. The evacuations of the father and daughter are still unhealthy; they all pass water without the aid of the catheter; the dejections of the youngest boy are no longer involuntary.

28th. They all occasionally experience pains in the abdomen, which are relieved by turpentine fomentations and the hip bath.

On examination it was found that the rectum of the girl still contained some of the hard substance; the operation was therefore repeated, and nearly as much as upon the former occasion was removed.

29th. The two boys may be now said to be convalescent; the father and daughter remain as in last report: the evacuations in both are involuntary, but they are of a natural colour: the father occasionally requires to have his urine drawn off by the catheter. There was no marked change in their condition up to the 3rd of January; on the 4th the girl was quite free from any symptom except weakness. The father, who is the only one now under treatment, continues to pass the evacuations involuntarily; and frequently requires the catheter. The retention of urine seems now to depend upon spasm, for there is difficulty in introducing the catheter, and it is found necessary to place him in a warm bath; he sometimes suffers from cramps. Opiate suppositories directed.

5th January. The urine passed freely; evacuations still involuntary; but he is much improved in every other respect.

15th January. The father is now convalescent, but complains of debility.

I am indebted to my friends, Drs. Hill and Aldridge, for an accurate microscopic and chemical investigation of the evacuations. They were found destitute of any feculent appearance or odour: they consist of large patches of potato peel, mixed with spongy balls of very decayed woody fibre, in which all traces of structure seem to have been lost, except in the fragments of peel; there was no appearance of regular cells, vessels, or even of starch globules in the dark brown, soft and spongy masses, but a large quantity of minute dark-coloured bodies or granules, were seen adhering to the peel, which resembled very closely the sporidia of the fungi found in unboiled diseased potatoes. The odour is sour, like that of vinegar, but mixed with something very disagreeable, approaching that of coal tar. The reaction is acid, and when concentrated sulphuric acid is mixed with some of the brown mass, fumes of acetic acid are copiously disengaged. When a little of the mass is mixed with water of potash and heat applied, ammonia is liberated in such abundance as to shew that the acid must be present in very considerable quantity to overcome its reaction. Not a trace of starch, gluten, or albumen could be detected. Drops of oil are visible in the mass submitted to the microscope, and this oil can be extracted by ether, when it is found to be colourless and volatile. The ammonia in this case may be supposed in great part to originate from the putrefaction of the nitrogenous elements of the potato; the complete destruction of the starch is remarkable, and it is probably from this source that the acetic acid proceeded. What is the origin of the oil it is not so easy to divine; it is evidently different from the yellow fatty oil which naturally exists in the raw potatoes, and is destroyed by cooking; the nearly entire absence of the alimentary excretions in these discharges is also worthy of notice.

In the foregoing cases purgatives had been freely employed before admission into hospital, but they utterly failed to produce alvine

evacuations. I am persuaded that nothing short of the removal, by mechanical means, of the enormous masses of undigested matter, would have proved effectual. The constipation may have been caused by over-distention, producing paralysis of the muscular fibres of the intestines; but mere dilatation would scarcely account for the paralysed state of the sphincter ani, and for the retention of urine. The inference then appears obvious, that the blighted potato exercised some influence beyond that which can be accounted for simply by over-distention and mechanical obstruction. I am not aware of any disease hitherto described, which presents symptoms precisely analogous to those in the cases which have been detailed. If we consider the diseased potato in the light of a poison—and doubtless it gave rise to a series of phenomena in these cases, which would probably have eventuated in death, if means had not been adopted to remove or mitigate the urgent symptoms,—to what class of poisons can we refer it? In what toxicological group are we to include it? A place cannot be assigned it among irritants, narcotics, or narcotico-acrids. Some of the most marked symptoms which these deleterious agents occasion, were absent in our cases. Delirium, the most prominent symptom in poisoning by the solanææ, was not present. The berries of the potato (*solanum tuberosum*) have proved poisonous, but I am unacquainted with any previous record of the boiled tuber having proved injurious to man or the lower animals. The most remarkable and interesting symptom was the perfectly patulous state of the anus; this condition remained after the masses of accumulated matter had been removed: when there ceased to be any evidence of the intestinal canal containing more of this peculiar substance, the sphincter was still powerless, and the dejections flowed away involuntarily. In all the cases there was retention of urine, and at times it was found impossible to introduce the catheter, owing to spasm of the urethra, which always, however, yielded to the warm bath. From the identity of the symptoms in the four cases, and from the nature of the contents of the intestines, I apprehend there cannot be a doubt as to the disease having been induced by eating largely of potatoes far advanced in decay.

The useful and practical deduction from this fact is, that it is expedient to prevent, as far as possible, the consumption of potatoes which are not positively sound. It may be said, that numbers of persons must have eaten of potatoes in a like state, and why is it that similar consequences have not followed? In reply, I would say, that it is probable a moderate quantity of blighted potatoes, more especially if mingled with other articles of aliment, might be eaten with impunity, but, that when potatoes form the *only* food, there are strong grounds for the presumption, that disease would be induced. If in four instances, we can trace the effects to the cause unequivocally, it would be absurd to suppose that they are to be isolated cases. The disease having yielded to treatment, no opportunity presented itself of ascertaining the morbid changes upon which the symptoms depended. I have consequently not ventured in the preceding remarks to hazard an opinion as to the precise nature of

the disease. Nevertheless, I conceive it to be the duty of a physician, at all times, to lay before the Profession the unusual and remarkable cases which come before him, and, acting upon this conviction, I have been induced to record these examples of an affection which must, under existing circumstances, be replete with interest.

Symptoms of Poisoning from Muriate of Barytes.—Miss P., æt. 22, of florid complexion, remarkably clear skin, and auburn hair, was admitted into the private ward of Sir P. Dun's Hospital, on the 1st of October, 1845, presenting a small ulcer over the sternum near its upper margin; this was filled with fungous granulations, discharging slightly, not painful; integuments discoloured, slightly indurated, and apparently attached to the bone. Without entering into the particulars of the case, suffice it to say, that on the 27th November she was ordered one-twelfth of a grain of muriate of barytes in pill *ter die*, under which she seemed to improve, and left the hospital on December 5th.

On Sunday the 14th, she was again admitted in the following state:—So weak as to require to be carried up stairs; respiration hurried, irregular, and difficult, interrupted by deep sighs; pulse 140, irregular, difficult to count from its weakness and diffident character; constant cough, without expectoration; countenance anxious and greatly altered in its expression, indicative of external alarm and uneasiness; cheeks flushed; tongue red and glazed, like a piece of raw meat pounded; tenderness on pressure, and a burning sensation complained of in the epigastric region; nausea; constipation; slight cramps in the lower extremities; complete anorexia; constant thirst for cold drinks; extreme weakness, being scarcely able to raise her head; greatly emaciated since leaving the hospital (only eight days); some difficulty in articulation; considerable dysuria. She reports that she sleeps but little, and that is disturbed; finds great difficulty in collecting her ideas; is slow to answer questions; is slightly deaf, with tinnitus; no headach, but vertigo; cheeks flushed; eyes glassy and tender; vision indistinct. The ulcer has altered entirely its character; it is now the size of a crown piece. The granulations, by which it was nearly filled, have entirely disappeared. The upper part of the sternum, with the sternal extremity of the second rib of right side, is exposed. They are red and glazed, entirely denuded; and both above and below their connexion, in the intercostal spaces, two circular openings are apparent, large enough to admit a pea directly into the anterior mediastinum. Through these, on coughing, matter is freely discharged from the cavity of the mediastinum.

Her story is this. When, on the 27th November, she was ordered Mur. Barytes, she was told by a pupil that this medicine would certainly cure her. She took for the first two days the quantity ordered, *one pill, ter die*,— $\frac{1}{4}$ gr. in the twenty-four hours. Thinking herself improved, and mindful of what she had been told, she thought if three pills did her so much good, five should do still more for her;

accordingly, on the 30th November, she took five pills, and repeated this for four successive days, taking thus altogether $2\frac{1}{4}$ grs. of the muriate. She now felt unwell; lost her appetite; had headach; slept badly; felt weak, but made light of it, and, anxious for home, she left the hospital.

Jan. 8th, 1846.—She is convalescent. By the adoption of suitable treatment all her formidable symptoms gradually disappeared; her wonted health and spirits returned, except, to use her own phrase, that she was very “nervous.” The most marked alteration is presented by the ulcer on the sternum; comparatively healthy granulations gradually sprung up, and it is to-day, save in a single point, completely cicatrized. She has left the hospital for the north of Ireland.

The principal points of interest in the above case seem to me to be:

1. The smallness of the dose of muriate of barytes capable of producing such alarming symptoms.
2. The evidence which the symptoms afford of the poison assailing the nervous system.
3. The remarkable changes which the ulcer presented, including the double aperture into the mediastinum.
4. The rapidity with which, directly on the subsidence of the more severe symptoms, obliteration of these openings and perfect cicatrization of the ulcer ensued.

J. C. FERGUSON, M. D.,
Vice-President, College of Physicians.

Fracture of lower Third of the Femur; No Displacement for five Days; Hæmorrhage from Vein and Artery; Death.

CASE 1.—A. C., aged 19 years, an usher in a school, admitted into the Belfast Hospital 10th February, 1842.

Six days previously, while walking, his foot slipped into a shallow drain, and he fell on his right side. When visited immediately afterwards he was lying on his back, complaining of great pain in lower third of left thigh, two and a-half inches above the knee-joint; posteriorly and externally, close to the depressed cicatrix of an old ulcer, which commenced fourteen years before, and in the centre of which existed an opening still discharging. There was no deformity of any kind, and the limb could be moved about freely and rotated, without producing any aggravation of pain, but he could not bear the least pressure over the injured part.

The day before admission he was seized with vomiting early in the morning, and, when visited, the deformity and crepitus shewed at once that a fracture existed. The bones were easily replaced, and retained *in situ* by means of Dessault's splint. Six hours previous to admission, on awakening from sleep, he found the bed saturated with blood, which was issuing in small quantity from the opening in the popliteal space: lower part of the thigh swollen, and very tense. He was immediately removed to the hospital, and, being allowed time

to rally a little, the limb was removed by the double flap. The entire operation occupied but a few minutes, was borne well, and not more than three ounces of blood were lost, but he never recovered the shock, and died eight hours afterwards.

Examination of amputated Limb.—Knee-joint and bursæ underneath extensor tendons formed one cavity, filled with coagulated blood; the femur was carious, and denuded of periosteum, for about three inches, commencing a little above the joint. It was fractured obliquely, and the two portions before and behind fitted accurately into each other, as if dovetailed. The fistulous opening communicated with the broken ends of the bone; the upper part of the lower fragment was very sharp, and corresponded to an ulceration, through which a probe could be passed into both vein and artery, which were imbedded in a mass of condensed cellular tissue, almost as firm as cartilage, and gluing the vessels close to the bone, above and below the fracture.

CASE 2.—Fracture of lower Part of Femur, without Deformity, for three Days.—James Beveridge, aged 26 years, an hostler, admitted into the Belfast Hospital 21st September, 1842, with fracture of thigh, about the centre of lower third.

He states that three days ago he received a kick on the thigh from a horse he was cleaning. The pain was very severe at the moment, but soon subsided, and he was able to follow his work as usual, until this forenoon, when, on attempting to assist another person to lift a bag of oats, he felt the limb yield, fell, and was unable to rise. On admission the usual symptoms of fracture, crepitus, deformity, &c., were well marked. The bone was easily reduced, and retained in position by means of Dessault's splint. He was discharged, cured, on the 17th of December.

Remarks.—These cases are remarkable for the length of time the fractured bones kept their place after the accident; in one instance five, in the other three days, during which time the latter patient walked about, following his usual occupation. The way in which the bones were locked together in case No. 1, fully accounted for the want of deformity: the spiculæ fitted into each other so accurately, that even when the bone was dried, and its broken ends were pushed together, some force was required to separate them. The vessels being so closely bound to the bone, above and below the fracture, could not slip to either side, and must have been pressed on by the slightest displacement of the bone, which may have been present, though undetected, producing consequent ulceration and giving way of both vein and artery. In the first case, also, the trifling nature of the accident was calculated to mislead, but in all such, when an injury has been received near the lower extremity of the femur, a careful examination should be made, and if severe pain be felt on pressure, a cautious and guarded prognosis should be given.

S. HUNTER, M. D., F. R. C. S. I.,
Belfast.

Ligature of the left subclavian Artery inside the Scaleni Muscles in a Case of Aneurism. By Dr. Rodgers, of New York. Death on the 15th day: *post mortem* appearances.—By private letters from the United States we are informed that that highly distinguished surgeon, Dr. J. Kearney Rodgers, of New York, has recently performed the very formidable and hitherto unattempted operation of tying the *left* subclavian artery inside the scaleni muscles. The late Mr. Colles, as most of our readers are aware, so long back as 1813, passed a ligature around the *right* subclavian, in the first part of its course. The patient died on the ninth day, but the case proved the perfect feasibility of the operation in every respect. Mr. Colles' opinion was decidedly against the internal operation, as applied to the left subclavian; and in speaking on this subject, he thus expresses himself: "This operation, difficult on the right, must be deemed impracticable on the left subclavian artery; for the great depth from the surface at which this vessel is placed, the direct course which it runs in ascending to the top of the pleura, the sudden descent which it makes from this to sink under the clavicle, and the danger of including in the same ligature the eighth pair of nerves, the internal jugular vein, or the carotid artery, which all run close to and nearly parallel with this artery; these all constitute such a combination of difficulties, as must deter the most enterprising surgeon from undertaking this operation on the left side" (*a*). It is curious that French surgeons in general make a totally different estimate of the chances of the right and left internal operation on the subclavian, the left being laid down, in most French works on operations, as presenting much greater prospects of a successful issue.

In Dr. Rodgers' case (the full particulars of which we hope to be able to lay before our readers in our next Number) the operation was required on account of an aneurism, involving the left subclavian in its second and third divisions. After the ligature had been applied the patient went on well for some time, but died on the fifteenth day, of secondary hæmorrhage. On *post mortem* examination it was found that the subclavian artery had been tied so close to the origin of the vertebral, that the circulation in that branch had been impeded, thereby giving rise to the hæmorrhage which proved fatal. A firm and adherent clot was, however, found on the aortic side of the ligature, and the veins and thoracic duct were perfectly uninjured.

As we have already said, we hope to be able to furnish our readers with full details of this interesting and important case in our next Number; but even the above abstract we deemed it worth while to lay before them at present.

(*a*) M. Malgaigne is in error in stating that the internal operation on the left subclavian was performed by Mr. Colles. Dr. Rodgers is, so far as we know, the first who has attempted it.

OBITUARY.

Dr. James Johnson, or Johnstone, so well known in the annals of literature as the Editor of the *Medico-Chirurgical Review*, was born in February, 1777, on the banks of Lough Neagh, in the parish of Bellinderry, county of Derry. He was a farmer's son, and had received but an indifferent education at a country school, when at the age of fifteen he was apprenticed to Mr. Young, a surgeon-apothecary in Port-Glenone, in the county of Antrim. With this gentleman he remained two years, and was then transferred to Mr. Bankhead, of Belfast, with whom he continued two years more, and then went to London, to seek his fortune, without either money or friends. In the metropolis he became the assistant to an apothecary; and, in 1798, passed a creditable examination at Surgeons' Hall. In May of the same year he was appointed surgeon's mate in the navy, and sailed to Newfoundland, &c. In January, 1800, after unwearied study, he passed, for the second time, his examination at Surgeons' Hall, and was almost immediately appointed surgeon to the *Cynthia* sloop of war, in which he accompanied the expedition to Egypt. In 1802 he went to China, and returned from the East in 1806. In 1808 he was again afloat under the command of the *Duke of Clarence* (afterwards William IV.), and retired from the service in 1814. At each return from active service he dissected, and pursued his studies with unwearied assiduity, gaining and maintaining the good opinion and friendship of those under or with whom he served. On retiring from the service he settled in Portsmouth, and became Editor of the *New Medical and Physical Journal*, in which he had already published some articles, in conjunction with Drs. Shearman and Palmer. In 1816 this periodical appeared, under the title of the *Medico-Chirurgical Journal*, in a monthly form, comprising about 100 pages, and divided into four parts, which were devoted to Original Communications, Reviews, Selections from Foreign Journals, and Medical Miscellanies.

In 1818 Dr. Johnson settled in London, and taking into his own hands the management of the *Journal*, which he had hitherto edited, he called it the *Medico-Chirurgical Review*, and thenceforth published it as a quarterly at his own risk and expense. "He was prompted by his courageous spirit, necessity, the conviction that a good analytical review ought to emanate from London, and the ambition to prove in his own person that that conviction was a true one."

In 1820 this *Journal* underwent another metamorphosis, it being determined that it should assume the character of a purely analytical review. A new series was commenced in 1824; and in 1844, Dr. Johnson, finding that his health and strength were now insufficient for the incessant labours of editorship, added to the toil of private practice, most reluctantly resigned its management.

Dr. Johnson also wrote several distinct works, of which the following are the principal :

"The Oriental Voyager, or descriptive Sketches and cursory Remarks on a Voyage to India and China." London : 1807.

"The Influence of Tropical Climates on European Constitutions," the first edition of which was published in 1812, and the sixth in 1841.

In 1822 he published "An Essay on Indigestion, or morbid Sensibility of the Stomach and Bowels, as the proximate Cause and characteristic Condition of Dyspepsia." This work has already reached the tenth edition.

His next was on "Change of Air, or the Pursuit of Health and Recreation," which saw the light in 1831.

His last work was on Ireland, through which he made a tour in 1844.

He died on the 10th of October, 1845.

The unknown, friendless, ill educated, and pennyless peasant boy, by his untiring energy, zeal, and talents, created for himself a name and independence; and has left behind a memorial which will not rapidly pass away, and of which his descendants may well be proud(a)

(a) Abridged from the *Medico-Chirurgical Review* for January, 1846.

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PART I.
ORIGINAL COMMUNICATIONS.

ART. V.—*Two Cases of Popliteal Aneurism, cured by Compression of the Trunk of the Artery at the cardiac Side of the Tumour, with some Remarks on that Method of treating the Disease.* By WILLIAM HENRY PORTER, M. D., Professor of the Theory and Practice of Surgery in the Royal College of Surgeons in Ireland; Surgeon to the Meath Hospital and County of Dublin Infirmary; and consulting Surgeon to the City of Dublin Hospital.

WILLIAM DEVEREUX, a tailor, æt. 29, was admitted into the Meath Hospital December 3, 1844, when he stated that he had generally enjoyed excellent health, until, about two months previous to his application for relief, when he observed an unusual pulsation or throbbing in the right ham, which, however, gave him no uneasiness, except that he imagined that limb to be occasionally stiff in walking. He thus continued for six weeks, at the end of which a tumour appeared at the spot where he first observed the throbbing, which gradually increased

until it attained the size of a small orange, though still unattended with pain; but the size of the swelling and the stiffness produced by it, interfering with the power of extending the limb, he applied sixteen leeches which he imagined had some effect in reducing its dimensions. During the last two days it increased so rapidly as to create alarm, and induce him to apply for assistance.

On examination, a tumour was observed pulsating strongly in the right popliteal space, and occupying its entire extent, firm and incompressible externally, but softer internally, where pressure had the effect of diminishing its volume considerably. The expansion during its diastole was equally perceptible in every direction, and a loud *bruit de soufflet* was heard over every part of it. Pressure on the artery at the groin reduced its size by nearly one-third. The man's general state of health appeared to be very good, and he made no complaint except of pain occasionally shooting down to the external ancle, particularly at night.

Dec. 6. At half past ten o'clock this morning I applied pressure on the trunk of the femoral artery by means of two clamps: one applied about two inches below Poupart's ligament, the other at a spot nearly corresponding to the place where the vessel enters the tendon of the triceps muscle, with the intention that one might be screwed down when it became necessary that the other should be relaxed, and thus a constant and uninterrupted compression be maintained. The superior clamp was then screwed down until the impulse of the circulation was communicated to the instrument, which vibrated with each stroke of the vessel. Under this pressure the pulsation of the tumour was scarcely, if at all, diminished, and he bore it without apparent inconvenience for a quarter of an hour, when it was relaxed—the inferior clamp having been previously screwed so as to produce a corresponding effect: but it was found that he could not endure this latter either so well, or for such length of time as the former, the reason of which appeared

to be that a comparatively much greater force was necessary to produce a given effect on the circulation when used where the vessel was deeply covered, and consequently the pressure on the soft parts there was stronger and less endurable. In the evening the limb was slightly swollen and discoloured, and he complained of pain in the calf of the leg, which latter symptom was relieved by wrapping the part in flannel.

Dec. 7. Passed a sleepless night; the limb more swollen but less painful.

Dec. 8. Had some little sleep from the effects of an opiate. The pain was now trifling, but the tumefaction increased, and there was some œdema. On this day he was able to endure the pressure of the superior clamp for half an hour, and of the inferior for twenty minutes; neither instrument was ever screwed so tightly as completely to obstruct the circulation, or stop the pulsation in the tumour.

Dec. 10. On this morning I found both the clamps loose and unscrewed: this had been done by the patient himself, who was feverish, irritable, and discontented, complaining of headach, and having a hot skin and accelerated pulse. He was ordered some aperient medicine which afforded great relief.

Dec. 12. I found it nearly impossible to affect the circulation of the limb by the inferior clamp: it could not be brought to bear directly on the vessel, and consequently the degree of pressure used was too forcible without being very effective. Mr. Millikin, the ingenious instrument maker, of Parliament-street, contrived a clamp in which this objection was obviated: it answered the purpose admirably.

Dec. 13. The œdema of the limb had nearly disappeared, and there was no pain; the *bruit de soufflet* scarcely perceptible in the tumour, and the force of pulsation diminished.

Dec. 15. The case seemed to be progressing most favourably, when, unfortunately, the new instrument broke, and

pressure of any kind was discontinued for several hours. The symptoms all returned as in the commencement.

Dec. 16. A new instrument having been constructed, the pressure was resumed, the symptoms being as strongly marked as at any previous period, but the general condition of the patient much more favourable; he could now endure the operation of the superior clamp uninterruptedly for an hour and a half, that of the inferior one for an hour, and neither occasioned œdema, discoloration, or pain.

Dec. 20. The *bruit de soufflet* was no longer audible, and the tumour seemed to be firmer and smaller. The patient appeared perfectly to understand the object of the treatment, which had been frequently explained to the pupils at his bedside, and managed the screws of the instruments himself with considerable judgment: the necessary attendance on him was, of course, diminished, and the case afterwards gave but little trouble.

Dec. 30. On the evening of this day he suddenly exclaimed that the pulsation in the ham had ceased, and that he was cured. On examination such was found to be the case.

Jan. 6. The tumour was hard, diminished in size, and totally devoid of pulsation. He was up on this day, weak and somewhat emaciated from confinement, but in other respects perfectly well. He has since been frequently seen by me, and by several of the pupils of the hospital; and up to the last day on which he came under observation (July 19, 1845), he remained without the slightest apparent tendency to a recurrence of the disease. The limb that had been engaged exhibited no difference from the other, except that, on minute examination, a small, firm, kernel-like tumour could be felt deep in the popliteal space.

The next case is that of a medical gentleman, who was under my care last summer, and is particularly interesting from the circumstance of the treatment having been discon-

tinued long before recovery took place—so long, that many may be disposed to doubt the validity of pressure in this case at all. For this reason I requested my patient to furnish me with his own notices of the case, and I give them in his own words: they are, perhaps, less methodically arranged, and less circumstantial, than might be desired, but their authenticity cannot be questioned; and, it may be added, that however sceptical others may prove as to the influence of the treatment employed, Dr. Murray never for a moment attributed his recovery to any other cause. During the progress of the case it was seen at different times by Doctors Cusack, Hutton, M. Collis, Smyly, Rynd, and, I believe, several others.

“Charles James Murray, M.D., while travelling in Italy, about nine months ago, received a strain from having made too long a step when alighting from a carriage. This did not produce much uneasiness or inconvenience at the time; but having, on two or three subsequent occasions, overstretched the leg, he began to feel at intervals, sometimes of two or three weeks, sensations as of cramp in the upper part of the thigh, and stiffness in the knee. About four months afterwards (and, in the mean time, he had been in the daily habit of taking a great deal of exercise on foot), the feeling of stiffness became permanent, and was greatly aggravated by flexion of the knee, but relieved by walking or moving about.

“On directing his attention more particularly to the part, he discovered a decided fulness in the popliteal space, with a violent pulsation; and he also observed that the veins of the leg were evidently distended: still, though convinced that an aneurism was forming, he continued to attend to the duties of a dispensary for two months longer, until, perceiving a decided increase in the symptoms, he consulted Mr. Porter (July 28, 1845).

“*Symptoms.*—The tumour soft, compressible, and circumscribed, occupying a length of about two inches of the vessel.

" Pulsation well marked and decided, and a loud *bruit de soufflet*, attended with a peculiarly rough sound, accompanied each impulse of the artery. Pressure on the vessel at the groin caused the pulsation to cease, and the sac to collapse and appear empty. There had been no increase of the swelling, but the stiffness in the ham had become much more troublesome.

" On the 2nd of August pressure was applied on the artery, under Mr. Porter's direction, in a moderate degree, and alternated from one point to another, according to the patient's feelings, but rarely to such a degree as to stop the pulsation in the ham. The action of the heart was very strong and excitable. The patient had cool drinks and a mild nutritious diet. The bowels were kept regularly open.

" The patient's chief complaint during the maintenance of the pressure was of a dreadful burning sensation along the course of the tibia, and this became so severe, that at the end of twenty days he refused to bear it any longer, and moved to the country to recruit his strength. There was then a decided hardness in the seat of the disease, but the pulsation appeared to be nearly as great as before.

" On the 27th of September, four weeks from the removal of the pressure (and during a fortnight of this time he had used a good deal of exercise) he felt on getting out of bed an unusual degree of stiffness in the knee, and, on examining, found an increased hardness in the part, and no trace of pulsation. On the previous day he had walked more than usual, and had gone to bed very much fatigued.

" It is only necessary to add that the cure, however accomplished, is a complete one, no symptom of the disease having ever reappeared."

The treatment of aneurism by "compression" has been already so extensively commented on, and so satisfactorily explained, by the several surgeons of Dublin, who have practised it with success, that the mere publication of the preceding

cases, and the evidence they afford, might be deemed sufficient, without entering farther on the subject; but having devoted considerable attention to the pathology of this formidable disease, and being frequently consulted by my professional brethren and friends, I find that this, one of the greatest improvements of modern surgery, is really not understood, and, therefore, cannot be duly appreciated. For instance, I have evidence in my possession to shew that by some, compression of the tumour itself has been strangely enough confounded with that applied on the trunk of the artery; by others it has been tried in cases to which it was inapplicable, and in which it could not possibly succeed; and by others it has been improperly and wrongfully employed altogether; so that, although extensively known for some years, and frequently tried, the practice, with the exception of two or three cases, seems only to have been successful in Dublin. Again, I have been asked is not this treatment by compression tedious, irksome, wearisome, and painful; have not patients abandoned it, and allowed the disease to take its course, rather than submit to such protracted suffering; and what possible advantage can it offer over an operation, easy of performance, decisive in its effects, and generally fortunate in its results? These are questions which require full and explicit answers. We know that implicit reliance may not always be placed on the announcements of discoveries in medical science, however confidently put forward, for many such, when exposed to the rigid test of practical investigation, have proved most miserable failures; and we can easily imagine, that a surgeon possessed of great dexterity, and favoured by fortune to an extent not often experienced, should demand the most undeniable evidence, before he could be induced to exchange the operation that in his hands had led to such happy results, for any other mode of treatment whatever. It is, then, with the object of meeting some of those objections, that I offer the following remarks. Calm and careful inquiry seldom fails to elicit truth, and let it be

but fairly established, and public opinion will do the rest; it will regulate our conduct in this, as it does in most other respects, but it is a power so stupendous, that a scientific man will seek rather to guide and direct, than merely be compelled to follow it, and will much prefer having his understanding convinced in the first instance, to yielding with a bad grace when opposition shall have become unavailing.

Already has this subject of the treatment of aneurism by compression been examined and explained to an extent that leaves little room for further observation(*a*); already it has been satisfactorily proved to be equally applicable with the ligature to many of the most unpromising and unfavourable cases; that, where applicable, it is, at least, equally certain of effecting a cure; that where one would be likely to fail from disease of the heart, diseased artery, or other cause of deranged circulation, the other would certainly fail also; nay, there are numerous reasons for believing, that pressure would be safe and successful where an attempt to tie the artery might be regarded as wholly unjustifiable: and all this has been substantiated by an array of cases occurring under different circumstances, and treated by different persons, sufficient to carry conviction to any unprejudiced mind. And here it may be observed, that the fact of a number of cases being treated on the same plan by different persons, distant from each other in time, and place, and circumstance, ought to constitute the most unanswerable argument in favour of the treatment adopted. One individual may be so fortunate—or, if the expression is more grateful, so skilful—as to number ten or twelve of such cases in succession, but under the other circumstances there must be something more, something connected with the remedy, rather than with the hand that administered it. On these points I should despair of making any important additions to the arguments, facts and illustrations already so

(*a*) See a Paper by Dr. Bellingham, Dublin Medical Press, vol. xiii. p. 181.

ably brought before the Profession, and, therefore, shall confine myself to some observations connected with the operation this treatment is intended to supersede.

It cannot be denied that the treatment by compression *appears* to be tedious, although I doubt much, that, on an average, it occupies more time than would be necessary for the management of a case by ligature, from a patient's entrance into hospital until his dismissal. It is also true, that it is troublesome to the attendants until the patient comes to understand his case, and assist in the regulation of the screws: and that it is painful is evidenced by the fact, that patients have, after a short trial, refused (as in the case of Dr. Murray) to permit its continuance. I rather think that this latter occurrence is frequently the result of too powerful a compression, but nevertheless it has happened, and in examining the question, I am disposed to look at it in its worst aspect, and accord to every objection its full value. These facts being conceded, then, it follows, that no patient should be exposed to such inconvenience, unless for the purpose of escaping something worse,—some suffering either more intolerable in its nature, or more perilous in its results, and therefore, it becomes necessary to prove that the operation of throwing a ligature around a large vessel is not that safe, and simple, and easy proceeding, which many would fain persuade us, but that it is really difficult of performance, and pregnant with danger in its results. But the question of the difficulty of any operation is one that may not admit of a general answer, for there is such variety arising from the size, situation, and condition of the vessel to be tied, the cause of the disease, the constitution of the patient, and the capability of the surgeon, that scarcely any two individuals submit to the operation under precisely similar circumstances, and there is this additional fact, that there are pathological conditions, both of the system and of the arteries at present wholly unknown, which often mar our best conducted operations, and lead to results that could neither have

been foreseen or avoided. All that can be asserted, then, is that the operations of securing almost all the great arteries of the body have been performed, and with a wonderful amount of success, and whilst it is conceded that different surgeons have acquitted themselves with a greater or less degree of facility, according to their respective acquirements and dexterity, it must be acknowledged, that patients have been lost by ignorance or *mal-address*. So far, then, the word "difficult" may be legitimately used in a comparative sense, as applied to this as well as to every other surgical operation, but that will not be sufficient for our present purpose, in furtherance of which it will be necessary to shew that some of these operations may be "difficult" to any man, no matter how gifted, how dexterous, or experienced, and that cases may and must occur, both numerous and of an important character, in which a failure is nearly unavoidable.

There is a remarkable condition of an artery which I do not recollect to have seen described, although it must be familiarly known, and doubtless has often been a source of perplexity to every operating surgeon: it is where it forms an abnormal but close adhesion to its adjacent structures, and particularly to its accompanying vein. Every surgeon, in operating, must have observed that it was more difficult to detach from its connexions and to denude an artery in some patients than in others; and the dissection of dead subjects will exhibit the same phenomenon, if carefully sought for; but in the latter case it is generally overlooked, either because attention has not been sufficiently directed to it, or that it may not have been regarded as practically important. I scarcely know whether this can be truly called a pathological condition of the artery, being in reality a product of disease. I am wholly uninformed as to its exciting cause, its progress, and its course; and it would only be a conjecture to attribute it to some species of chronic inflammation rendering the cellular coat of the artery thicker and shorter, and disposing it to contract close

adhesions to every surrounding structure. However explained, the result is but too evident in many cases where arteries and veins lie in close juxtaposition, and become so mutually adherent as not to permit of separation even by the knife; or, as I have heard it forcibly expressed by a distinguished anatomist, "to possess but one and the same wall." This condition I was formerly in the habit of regarding as existing only between the popliteal artery and vein, where I had heard it spoken of, and seen it demonstrated by anatomists as the natural and ordinary state of the parts; but some years since I was led to modify that opinion by observing, in the dissection of a case of axillary aneurism, this very adhesion established between the subclavian artery and vein at the only point where the vessels came in contact, and where it must have proved a source of insurmountable embarrassment had an operation been attempted. I have since seen it in the axilla in the person of a cripple who had been obliged to use crutches for many years; its existence in the thigh is by no means unfrequent, and I believe it may occur between any artery and vein in the extremities, although, for reasons with which we are at present unacquainted, it prevails in some localities and some vessels more than others. A curious, and perhaps interesting, speculation might be opened here, as to how far this state of chronic inflammation (if it be really so) might dispose to aneurism, and therefore be most likely to be met with in the very cases where it would prove most embarrassing; or whether it might not explain the frequency of the disease in particular situations, in the popliteal space for instance; or again, whether the altered condition of the cellular coat of the vessel might not render it more brittle, and, by giving it a tendency to break down under a ligature, favour the occurrence of secondary hæmorrhage. Such considerations may possibly form grounds for future pathological inquiry, but, in the present state of our knowledge, could (as I have said) be only

speculative, and I willingly forego them for matters more immediately connected with the question at issue.

The femoral artery has probably been the subject of operation as often as all the other arteries of the body taken together; and at the place where it has usually been taken up, it is, in its anatomical relations, rather unfavourably situated, being in front of the vein, which it keeps out of the operator's view. This position of the parts has been constantly brought forward, in explanation of the frequency of the vein being wounded and partially included in the ligature, and the accident, as it was called, uniformly laid to the account of anatomical ignorance, or a want of sufficient surgical dexterity. But this very abnormal adhesion which I have alluded to exists with great frequency between these vessels, and, when it does so, it will furnish a more satisfactory explanation of the occurrence; for, under the circumstances, there is but one wall between them, and in any attempt to pass a needle around the artery, it must be pushed through the vein; the ligature, if tied, must include a portion of it, and occasion an inflammation, that, according to my observation, is certainly and uniformly fatal. Now, let us not, in our own vanity, assert that this is an instance of awkwardness on the part of the operator, and might be easily avoided; neither let us boast our own individual success, which, after all, may be more justly attributable to the accident of not having met with a vessel in this diseased condition. I have seen it happen so frequently, and in such hands, that I feel convinced there must be something more than accident, or ignorance, or carelessness, to occasion it. I know that it has been done by the most dexterous and best-informed men—surgeons constantly in the habit of performing bold and difficult operations, and who never, in other cases, were accused of *mal-adresse*. I once heard a surgeon, whilst in the act of performing the operation, speak of the occasional adhesion of the vessels, and adduce it as a reason why he should proceed with a more than ordinary degree of slowness and precaution, yet he

passed his ligature through the vein notwithstanding, and eventually his patient died. I saw another who, in passing his needle round the artery, obviously wounded the vein, for about a spoonful of very dark blood welled up from the bottom of the wound: he was aware of what he had done, withdrew the instrument, passed it higher up, and, in the second attempt, actually included and tied a portion of the vein. Nay, I have been present when a lecturer, engaged in demonstrating the operation on the dead subject, and dwelling on the possibility of committing this unfortunate mistake (as he called it), practically fell into it himself by opening the vein: yet here were no cries or struggles to embarrass the operator, no impatience of suffering to occasion anxiety or haste, no blood to obscure his view, nothing to prevent him from calmly and quietly separating the vessels, except the one pathological fact, namely, that they were inseparable. But I may not pursue this line of illustration farther. Surgery has not yet arrived at that independence of public opinion that can allow its failings or its faults to be given to the world, and its practitioners are chary of having their unsuccessful cases even distantly alluded to. I shall, therefore, only refer my readers to their own observation and experience, and allow them to say whether such casualties have not been but too frequent, although they may not have been explained according to the views I have ventured to adopt.

But any difficulty that may attach to the performance of this operation weighs as nothing in the scale when compared with the dangers attendant on it,—dangers which occur whether the patient is strong or weak, powerful in constitution or debilitated and broken down, and whether the operation is performed with consummate dexterity or the reverse. I pass the consideration of erysipelas, diffuse inflammation, and that host of similar maladies which so often baffle our best exertions, and confining myself to the accident of secondary hæmorrhage alone, which seems to be almost proper and peculiar to this operation,

I ask those who confidently vaunt an uninterrupted and uniform success, whether there is nothing to be dreaded from this source? The answer will be found in the multitude of supposed causes to which this unhappy occurrence was attributed, and in the corresponding number of precautions that were suggested, and uselessly suggested, for its avoidance—and still more forcibly in the fact, that the Hunterian operation was practically neither so satisfactory nor so successful, but that all looked on it with some degree of apprehension, and many, in seeking some mode of treatment that might be substituted for it, occasionally and accidentally performed cures, without knowing how or why, or being able to establish a principle that might govern the conduct of others. Thus, many surgeons may possibly be entitled to claim the honour of having anticipated Mr. Hutton in the treatment of aneurism by compression, applied on the trunk of the artery; and even the records of surgery prove that the practice is not altogether new. We read in the *Dictionnaire des Sciences Medicales* of a certain merchant in the Isle of St. Louis, who cured himself of a popliteal aneurism, by condemning himself (such is the expression), during an entire year, to the most absolute rest, confinement to bed, rigid abstinence, frequent blood-lettings, and compression of the crural artery against the femur, at the situation of its passage through the triceps muscle. This latter was effected by means of a half circle of steel, resembling the spring of a truss, whilst a pad, acted on by a screw, enabled him to graduate and regulate it at pleasure. At first the pain was too severe to permit of the pressure being constantly maintained, but as he became accustomed to it, he was enabled not only to sustain, but to increase it, until the pulsation of the tumour diminished in force, and at length ceased altogether. This case bears a striking resemblance to many of those recently treated, in the instrument employed, and indeed in every particular, except the length of time occupied in the cure, but it does not seem to have attracted any marked at-

tention at the time, or to have been followed by any beneficial result. Again, the idea of curing an aneurism by a gentle and gradual diminution of the force of the circulation in the tumour, has no claim to novelty either. Dubois managed several cases in this manner, his object being to allow time for the collateral circulation to become sufficiently enlarged to ensure the safety of the limb: but he laid bare the vessel, and accomplished his object by the use of a *presse artère*, and, therefore, his operation, either in principle or execution, could only have been useful in shewing that the total and sudden withdrawal of the impulse of the heart from the blood in the aneurismal sac, was not indispensable to its coagulation. Thus, the elements of what may be termed the modern treatment of aneurism were long since occasionally resorted to in practice, but, not being understood, could not be brought into systematic or combined operation. It merely appears that surgeons were fully alive to the dangers attendant on the ordinary treatment of the disease, and that, in their efforts to escape them, they fell upon other resources, suggested by some accidental case. Probably numbers of patients were thus relieved; I know that some in this city were cured, but the event shewed that their attendants either did not reflect on the method by which the disease was removed, or attributed it to some erroneous or insufficient cause.

On considering the various plans and contrivances that were suggested for the purpose of escaping the perils of an operation, and inquiring into the reason why some of them did not succeed, I think one of the principal causes of failure will be found in our familiarity with the ligature, and the confidence we reposed in it: for thus we were led to distrust any proposal unless it accomplished just as much, and precisely in the same manner. Thus, being accustomed to see the tumour collapse, and its pulsation cease instantaneously on the cord being tied, we considered similar phenomena as essential in any other mode of treatment, and if they were not, or could not be pro-

cured, we abandoned the entire procedure as incomplete and inefficacious. I have seen this exemplified within my own experience. Several years since, in consequence of some operations performed at the Meath Hospital being followed by secondary hæmorrhage, trials were instituted of other modes of treatment, and, amongst the rest, of that by pressure on the trunk of the vessel. But the attempts were made by methods designed and calculated to produce the effects above stated. My ingenious friend, Mr. L'Estrange, who has since done so much for the surgery of lithotrity and hernia, then contrived a kind of tourniquet to compress the femoral artery at the groin without interfering with any other part of the limb, and well can I recollect the sanguine expectations entertained of the efficacy of this instrument, as well as the disappointment experienced at its failure. Yet it was in every respect perfect for the purpose it was intended to answer. When applied, it completely stopped all pulsation in the tumour, and seemed to arrest all circulation through the artery; nay, more, when, for the sake of experiment, it was fitted on the thigh of a dead subject, it resisted the force of a large and powerful syringe, and suffered not a drop of the injection to pass. No doubt was, indeed, with the pathological views then entertained, no doubt could enter any of our minds as to its efficiency, and yet, when brought into practical operation, it was found to be completely useless. As may be imagined, the distress it occasioned was beyond endurance, and it was speedily abandoned, excepting only in the case of one patient, who seemed to possess uncommon fortitude, and in him it excited erysipelatous inflammation in the course of eight-and-forty hours, and was consequently laid aside. Yet was not the fault in the instrument, but in the principle that directed and regulated its application. Capable of completely arresting the circulation, and intercepting the impulse derived from the heart, it could have been made to accomplish these objects partially, or in a minor degree, had such been the desire or the intention with which it was used:

but the result proved that no such idea was then entertained, and the instrument was laid aside for ever. Various trials of other apparatus and different modes of treatment were subsequently attempted; but, acting on the same principle, and directed to the same ends, they all failed, simply because they were made to do too much: the ligature, with all its dangers and disadvantages, was again resorted to and maintained its ground, not because of its simplicity or its safety, but because it alone produced effects consonant with the pathological doctrines of the day. I believe this circumstance to have been for a length of time the chief impediment to improvement, and also that it exercises a similar influence even at the present day, inasmuch as I have seen surgeons, without giving themselves the trouble of reflecting on a new proposal, or examining the principle upon which it is based, refuse their confidence to it because it professed to accomplish the desired object in a manner different from that on which they were accustomed to rely.

But the fact is, that the principle on which aneurisms are thus treated was repeatedly developed before our eyes, in the results of many of our operations, although we failed to observe, and, therefore, to render it available. It is essential that every practitioner, still sceptical as to the effects of pressure, and apprehensive that he will be obliged eventually to fall back on the old resources of his art, should rightly understand this position, for some such conviction will be necessary to assure him, not only that pressure on the trunk of the artery has cured the disease in numerous instances, but that such an event ought to be expected in every legitimate case, that is, in every case that would heretofore have been considered as curable by the ligature. It is familiarly known that blood withdrawn from the circulation of a healthy animal possesses, in general, an uncontrollable tendency to become coagulated, and that it will assume that condition, unless interfered with by artificial means; nay, that it requires great and long-conti-

nued disturbance, to the extent of breaking down and disorganizing the structure of the fluid, in order totally and effectually to prevent it. Now, the disturbance experienced by the blood contained within an aneurismal sac is occasioned, first, by the action of the heart throwing a wave of blood into it, and then by the reaction of the sac and its coverings returning a part of this back again into the circulation; and we know by experience that this quantum of disturbance is rarely sufficient to prevent coagulation completely, for a portion of the contents of almost every sac is more or less solidified. Again, the reaction of the coverings of the aneurism depends on their elasticity—a dead force, which requires to be acted on before it comes into operation, and, therefore, must bear a relation to the impulse that produces it, so that, if by any means the power with which the blood is thrown into the sac can be reduced, the power by which it is returned must be reduced also, and by so much will the fluid experience less disturbance, and be placed in a condition favourable to coagulation. Lastly, in proportion as the contents of the sac become solid will the impulse it receives, and, of course, its resiliency be weakened (an effect which we see in the feeble and undecided pulsation of old aneurisms): and thus it happens that, the coagulation of each portion of the blood increasing the facility of the remainder to assume a similar condition, the entire comes to be solidified. In this manner it is not difficult to understand how a sensible diminution of the force of the circulation, if maintained for a given time, can effect the cure of an aneurism, and why it may not be necessary totally to remove it, as used to be the case when the ligature was employed. Unfortunately, such a condition is not likely to be obtained without artificial interference; on the contrary, either the original cause that produced the aneurism, or the irritation occasioned by the presence of the disease itself, generally tends to excite the circulation; and if, from any accidental cause, a contrary effect is produced, and its activity diminished, the

depression seldom continues a sufficient length of time to accomplish the desired end. Thus, admitting the truth of the hypothesis, that nothing short of the full and perfect action of the heart can maintain an aneurism, and cause its progressive growth, and that it would decrease in size, and ultimately disappear, if that action could be reduced and kept so for a given time, still it should be admitted that circumstances of so favourable a nature seldom arise spontaneously, and, therefore, the infrequency of the natural recovery can be easily explained.

Seeing, then, that Nature is generally inadequate to the performance of these conditions, the next step is to inquire into the means we possess of affording her assistance, and of their probable efficacy. These are twofold, the medical and the mechanical; and here it may be observed, that we cannot understand the value of Valsalva's treatment, or explain the curative properties of such medicines as digitalis, &c., save on the principle contended for. But then, it may be asked, why recoveries under medical treatment alone are so few and far between, that little or no confidence is practically reposed in it. Almost all patients suffering from aneurism are debarred from exercise, restricted in diet, and removed, if possible, from all opportunities of mental excitement; almost all are subjected to medical treatment, and ordered digitalis, or some other medicine, possessed, or supposed to be possessed of the power of reducing the force of the circulation; here the required conditions are at least partially complied with, why do they not recover? The answer to this question must be put into the form of another: are they really so complied with? for, according to my experience, they are not. Few, very few, patients can be induced to submit to them, and perhaps the number is still more limited with whom the purely medical treatment is ever pushed to the extent desired. Within my own observation I never met with one patient who would submit "to preserve his life by rendering life not worth preserving;" not one

who would even endeavour to observe the rigidity of abstinence imposed on him, and I have known many to leave hospital rather than endure a very moderate degree of privation. As to the medical treatment of aneurism by digitalis, and drugs of a similar character, I am not competent to speak so decisively, but I believe few practitioners are disposed to press it energetically, and I have, in numerous instances, witnessed such treacherously destructive effects from it that I should not regret to see it abandoned altogether. Again, it is generally resorted to in the internal forms of the disease, in aneurisms of the aorta, where the vessel is otherwise probably in an unhealthy condition throughout its entire extent, where the rent or aperture in it is very large, and where it is close to, and immediately under the influence of the heart, and it is evident that if recovery in such a case is possible at all, it must be by means and measures more powerful, and longer applied, than might suffice for the cure in a case more favourably situated. Most practitioners entertain strong doubts of the efficacy of any treatment under such circumstances, and will not pertinaciously insist on interfering with their patient's comfort, or opposing his will, without a reasonable expectation of some countervailing advantage. Thus, the medical treatment of aneurism scarcely ever receives a fair trial, and its efficacy is not so much to be estimated by the number of recoveries actually effected as by the quantity of good sometimes obtained, and the length of time to which existence is occasionally prolonged by our present inadequate and imperfect measures: did we possess therapeutic means of decidedly reducing the circulation, or could we safely persevere in their employment, possibly the result might be widely different.

But in cases of external aneurism we have mechanical contrivances to aid us, by which we can graduate and regulate the circulation through the tumour, and reduce it, and keep it reduced, to any point the patient may be able to endure; but as he will not bear its entire interruption, it is necessary

to shew that something considerably short of that will be sufficient to cure the disease notwithstanding. Now, the simplest and most satisfactory method of doing this is by proving that it often happened, under the old system of treating aneurism, in cases where nothing of the kind had been intended, and even against the operator's wish, thus:

Almost all the cases in which pulsation returned in the tumour after the operation by ligature, a circumstance too frequent of occurrence not to have been generally observed, and which sometimes created groundless apprehensions in the mind of the surgeon lest his operation should have failed altogether, were literally illustrative of this mode of treatment.

So also were all the cases in which the artery was purposely tied loosely, in the hope of thus avoiding secondary hæmorrhage.

Some of the cases treated by my friend, Mr. Cusack, ostensibly by direct pressure on the tumour, were of this nature also, for, if I recollect aright, at the same time, and in addition to such pressure, he used compression on the trunk of the vessel also.

It is quite evident that in not one of these instances was the impulse derived from the action of the heart wholly removed, in not one was there more effected than a diminution of the force with which the current of blood flowed into the aneurismal sac. This current might have been impelled with an impetus greater or less in different cases, and, therefore, the cure might have been accelerated or delayed, it might have come directly through the imperfectly tied or compressed vessel, or by the collateral circulation; still, in each and in all, it entered the sac with a diminished force and in a diminished stream. In the first case(*b*) in which I placed a ligature on the carotid artery the pulsation returned in the tumour in less than four hours, and continued in it for days or even

(*b*) Dublin Hospital Reports, vol. v.

weeks: here the most that was accomplished by the operation was a reduction, and, as might be inferred from the progress of the case, a very trifling reduction of the force by which the blood was propelled into it, yet the patient recovered, and, as verified by dissection seven years afterwards, the aneurismal sac was entirely obliterated(c). In Sir Philip Crampton's case, treated in the Royal Infirmary, in which he purposely tied the femoral artery in a very lax noose, he assuredly did no more than diminish the force of the current through it, yet that patient recovered also. Every one of those cases, and many more of a similar character, might be added to the list of those treated by compression on the artery, for the recoveries were based on the same principle, although not effected in the same manner, and any one calmly reflecting on the number and frequency of these, must feel surprised, not alone that the proposal of treating aneurism by pressure should be met with doubt and hesitation, and even rejection, but that a principle obviously, and almost daily, placed under our observation, was not sooner laid hold on and brought into practical operation. True, the disease may occupy situations where this particular mode of treatment cannot be adopted, to which there may be no means of applying pressure, or where there may not be sufficient space for its adaptation, and, therefore, we cannot forego our operations on the carotid, the subclavian, and the iliac arteries; but for the other forms of aneurism, and especially that formidable one, the popliteal, still more formidable because of its extreme frequency, and the fatality that attended its former treatment, we ought to consider ourselves happy in possessing a resource which promises to supersede the necessity of operation altogether. I look forward with hope, and indeed with confidence, to the day when it shall cease to hold a place in operative surgery, when it shall have become (at least in Ireland) a matter of professional history,—

(c) Porter on Aneurism, p. 152.

the practice of by-gone days, and when a surgeon shall undertake the management of a case of popliteal aneurism with as much calmness and reliance on the resources of his art, as he lately approached it with apprehension.

Having thus far endeavoured to prove that it is not indispensably necessary that the whole impulse of the heart should be removed from the blood contained within an aneurismal sac, but that a diminution of it, maintained and kept up for a given time, ought to be and will be sufficient for the cure of the disease, it only remains to inquire into the absolute extent to which such diminution should be carried, and the length of time it must be persevered with. Obviously, the answer to the latter part of this question must depend on the dimensions of the tumour, the fluidity of its contents, the disposition of the blood to become coagulated (for I believe individuals differ in this respect), perhaps on the size of the rent or aperture in the vessel, and a variety of other circumstances and characters in which one specimen of the disease may differ from another; it cannot, then, be determined at once, but it may be observed, that, as far as experience has hitherto shewn, the cure is completed in at least as short a time as it ever was by operation, and sometimes even in less. The case (*d*) treated by Mr. Cusack seems, as reported, to have been as unpromising for any mode of treatment, whether by operation or otherwise, as can be easily imagined, yet it got well in the almost incredibly short space of seven days; but on this point it would be unprofitable to enter on an analysis of the recorded cases, seeing that the actual degree of compression employed in each cannot be ascertained, a circumstance that, along with those already enumerated, must materially influence its necessary duration. But with respect to the other part of the question, it appears to be proved that the requisite diminution of the force of the current of blood is much less than could have been *a priori*

imagined, and, consequently, that the pressure on the trunk of the artery may be comparatively gentle. This might have been anticipated from the not infrequent cures of aneurism by the moderate pressure of tumours in their neighbourhood, and it is a point of the greatest practical importance, because, as has been stated, all our former failures were caused by a degree of compression that could rarely be endured, or, if borne for a time, produced erysipelas or ulceration, or even gangrene, of the parts underneath. Another consideration of some consequence is, that the pressure, however slight at first, may be subsequently increased according as the patient becomes accustomed to it; at least such inference may be deduced from some of the cases recently treated, and it may have some weight with those who still hold to the opinion that the entire removal of the impulse of the heart is, at some period of the treatment, indispensable to the cure. For my own part, I believe, a very moderate degree of pressure, maintained throughout the entire progress of the case, will, in the majority of instances, be found sufficient; that which I employed was barely capable of communicating an impulse from the artery to the instrument, and causing it to vibrate gently in correspondence with the pulsations of the vessel. Under this the limb at first assumed a purplish hue, and, in the course of three or four days, became slightly œdematous, symptoms which, I confess, would have created some alarm, had I not had the advantage of witnessing some of the previously treated cases: it also occasioned pain in different parts of the limb, and this to such an extent in the case of Dr. Murray as to induce him to abandon the treatment for a time, though with a firm resolution of recurring to it at some future period. I can easily understand how the occurrence of such symptoms might awaken the most painful anxiety, and even lead to a discontinuance of the attempt. I can comprehend also how the trouble of attending such a case and regulating the clamps and screws might decide a practitioner in declining to undertake it, but

it should be recollected that we do not extol the practice as being simple and safe, and free from pain, and exempt from trouble; we only compare it with another, and advocate it on the grounds of being more free from danger, more conservative of human life. I do not, then, pretend to measure the extent to which the compression might gradually be increased, or say how far it was carried by other practitioners, but in the cases I have detailed it never at any time was sufficient to arrest the circulation entirely, or cause the pulsation of the tumour to cease, until it ceased altogether and for ever; neither can I conceive how more than a very gentle compression can ever be necessary, if the pathology of the case bears any analogy with, or resemblance to, that in which pulsation returns in the tumour after the artery has been taken up. In this latter case the degree of compression, whatever it may be, is applied at once, and remains afterwards unaltered, and the current of blood, whether it pass through its accustomed channel, or by the circuitous course of the collateral circulation, cannot be mechanically rendered weaker on one day than on the preceding; yet eventually, under the gradual coagulation within the sac, the symptoms disappear and the disease is cured. Thus, we have satisfactory evidence that it never can be necessary to apply such a degree of pressure as would induce any really dangerous condition of the parts, even if it could be quietly endured, and we have also testimony that a very moderate one will be sufficient, in the interesting fact, that in a great number of our cases the regulation and management of the clamps and screws were, after a very short time, intrusted to the patients, who would not be very likely to inflict pain upon themselves, or enforce the remedy beyond that which could be easily endured.

But it has been stated to me in more than one communication on this subject, that the practice had been tried and failed, and that it was necessary, in such instances, to fall back again upon the old operation by ligature. The validity,

or rather the truth of this objection, must be conceded at once, inasmuch as I know of a similar occurrence having taken place in Dublin, but when examined it really will not appear to be of much importance. Let us make allowance for the difference of temper observed in individuals—for the irritability and impatience often exhibited under circumstances of far less severity. Again, let us recollect how very recently the systematic treatment of aneurism by compression has been introduced; that our instruments are probably far removed from the degree of perfection that may hereafter be attained; that there are no certain rules or precepts to direct their application; that they may have been used irregularly, imperfectly, or even injuriously; or, supposing them correctly applied, that they may have been hastily and prematurely discarded, and then the only matter for surprise will be that the failures have not been more numerous, and the objections more loudly pressed. But is it exactly fair thus to criticise a proposal confessedly so new? Is it just to expect from a practice barely in its infancy, the full perfection of a ripe maturity? The history of surgery, and particularly of the operative part of it, might teach a different lesson; even the Hunterian operation itself, clumsy and unskilful in the outset, required time and patience, and pathological investigation, to raise it to its present estimation—a position it never would have reached had it been judged by the result of its first and earliest trials. But there is a totally different point of view in which this objection may be legitimately placed, and in which the case of Dr. Murray appears to be particularly valuable. Here is a medical gentleman, not likely to be mistaken in his own case; he is seen by a number of surgeons perfectly conversant with aneurism, and the nature of his disease is fully recognized; he is subjected to a particular line of treatment for twenty days, becomes impatient under the pain, gets up and resumes his avocations; not only does not pursue any measures that might possibly favour a recovery, but adopts habits of a directly con-

trary nature, taking long walks, and using a great deal of exercise, and the disease disappears notwithstanding. Now I am not in a condition to prove that the compression cured this patient, but the contradictory of this proposition is equally insusceptible of proof; and if it did cure him, which is at least within the range of possibility, is it not equally possible that some of those patients who had been operated on after compression had apparently failed, might have experienced a similarly fortunate result? I am not disposed to place any very great stress on this solitary case. I know how very little reliance can be attached to insulated facts, and how dangerous it is to reason from them; still, in the investigation of a new proposal, which, if established, must be a decided improvement in practical surgery, it cannot be unfair to bring forward any fact that seems even remotely to bear upon the subject. Let it and all others be subjected to the rigid ordeal of experience, the only test that will ever determine the value of any practical suggestion: if false, their worthlessness will soon be made apparent; but if true, they will establish for themselves a hold on professional opinion not to be assailed by argument or speculation, however plausible or specious.

ART. VI.—*Observations on the Case of the late Abraham Colles, M. D., formerly Professor of Surgery in the Royal College of Surgeons of Ireland.* By WILLIAM STOKES, M.D., M.R.I.A.

IN communicating the particulars of Mr. Colles's case to the Profession, I act in accordance with his express desire. The case was laid before the Pathological Society, and, by the permission of the Council, I now publish it, with some remarks on the diagnosis of the complicated affection which was ultimately the cause of death, and deprived the Profession of one of its most eminent and zealous members. I may add, that the value of the case is enhanced by the account of the post mortem examination made by my distinguished colleague, Dr. Robert W. Smith.

It is not to be supposed that the disease under which Mr. Colles laboured was rare or unusual in its symptoms or history. On the contrary, the group of symptoms it exhibited is not unfrequently seen. A weakened and dilated heart, chronic bronchitis, and emphysema of the lungs, with congestion of the liver, all occurring under the influence of a gouty constitution, were the affections under which he laboured. Such a case must be familiar to practical men;—it is more frequently met with in the upper than the lower classes of society. But, notwithstanding the frequency of such cases, the opinions of medical men are often found to be divided upon them, and of this no one was more aware than Mr. Colles himself. He has frequently said, when conversing about his own case, that he had seen many of the same kind; and he referred to the case of the Rev. Peter Roe as one which presented symptoms and physical signs similar to his own. He has often said to me, “we want to know something more about this disease.”

The combination of three organic diseases with a constitutional affection, is, as I have remarked, not often met with among the lower ranks of society;—it is rarely seen in hospitals; and this may, to a certain degree, explain the diversity of opinion as to its nature; but the real cause arises from the tendency to study diseases as presented in an isolated manner, rather than in combination, in which it is difficult or impossible to say in what organ morbid action has first commenced. Again, during the progress of these cases, we may have attacks of a similar or dissimilar nature. Thus, it may happen that in one attack the heart appears the prominently suffering organ; in another, the liver; and in a third, the lung: and hence we can understand how different medical men, seeing the patient at different times, may greatly vary in their opinions as to the true nature of the disease.

Mr. Colles, though of a strong frame of body, presented some peculiarities of constitution. He had a chronic cough,

and was liable to sudden attacks of diarrhœa. As he advanced in life he had frequent attacks of gout in its ordinary form; and for more than two years before his resignation of his chair in the College of Surgeons, which occurred in 1836, he suffered from chronic bronchitis, with occasional acute attacks. During these attacks, dyspnœa and palpitation were the prominent symptoms; but the disease used always to yield to small general bleedings, followed by the exhibition of blue pill and Dover's powder.

He was also occasionally affected with slight erysipelas of the face; and it was observed that the erysipelatous and gouty attacks were accompanied and followed by a suspension or diminution of the affection of the chest.

In the session of 1836 he felt that after every lecture he was slightly feverish, and that languor and debility followed; and under these circumstances, Professor Harrison felt it to be his duty to urge strongly upon him the necessity of his resigning the chair which he had so long and so ably filled. He was attended by Dr. Cheyne, and, after Dr. Cheyne's retirement, by Dr. John Crampton and Professor Harrison. The attacks of bronchitis recurred from time to time, and Dr. Crampton continued the practice of small bleedings, and on all occasions with the most marked benefit. He was bled about twelve times, but the operation was always somewhat difficult, and he at last adopted the practice of local bleedings for the relief of the attacks.

My first professional visit to Mr. Colles was in the spring of 1840. He had retired to bed, feeling as well as usual, but was suddenly seized during the night with dyspnœa, so severe as to force him to rise, and spend the remainder of the night sitting in an arm chair. I saw him at an early hour in the morning, and had the advice and assistance of Mr. William Colles and Professor Harrison. His breathing was then a good deal relieved, but still hurried, and wheezing.

He described the sensation of suffocation at the onset of the attack as being something dreadful. His symptoms then were wheezing and laboured respiration, the pulse irregular, unequal, and rapid; some cough, and a bronchial rattle. The chest every where sounded well on percussion; but the vesicular murmur in the postero-inferior portions of both lungs, but particularly the left, was marked by a dry sibilant rale. Cupping and other means were employed, and he was soon so much relieved as to be able to resume his professional labours.

Very soon after this illness, Mr. Colles was attacked with gout in the ankles, and in one knee. This soon subsided, leaving, however, a good deal of œdema, and at this time the heart presented the following physical signs. The impulses were feeble, irregular, and rapid, and the organ seemed to impinge against a surface larger than natural;—the action of the heart was at times so irregular and rapid, that it was with great difficulty the sounds could be analysed;—the first resembling the second sound, and *vice versa*. At other times the rhythm was more natural, and the sounds could be distinguished. There was no valvular murmur, nor could any unusual pulsation or other morbid sign be found in the course of the great vessels.

Mr. Colles continued in a delicate state of health for some time, and suffered from dyspnœa on ascending any height. The bronchial affection seemed to increase, and he lost some flesh; his pulse was occasionally much more regular, though never without more or less of intermission; and, under these circumstances, it was advised that he should try the effect of a complete change of air, with the double view of obtaining a more decided mental rest, and of improving his general health. He went to Switzerland and enjoyed his excursion greatly; his health improved, and his powers of ascending an eminence were so much augmented, that he was on one occasion able to

walk smartly for a considerable distance up one of the roads, which rise from the shores of the Lake of Geneva: he mentioned his great delight at this improvement in his powers. On his return to London he was seen by several professional friends, and was recommended carefully to abstain from all unnecessary muscular exertion.

On his return to Dublin, he determined to reside at Kingstown, where for some time he was under the care of Sir Henry Marsh. He had from time to time attacks of dyspnœa, with diminution of the urinary secretion, but he continued to occupy himself with his professional avocations in the intervals of the attacks. I was then again requested to attend him, and found him in much the same condition in which I had last seen him; but with this difference, that the liver could be plainly felt below the margin of the ribs, forming a flat, smooth, and apparently indolent tumour in the hypochondrium and right portion of the epigastrium. There was no appearance of jaundice; nor any perceptible alteration in the condition of the heart or lungs. Mr. Colles then observed to me that he feared his friends on this side of the water had been in error as to the question of valvular disease, and that, had this affection been sooner recognized his treatment would have been different. He seemed convinced that valvular disease existed, and that the step of sending him to travel was a mistaken one. I may here mention that Sir Henry Marsh, Dr. Harrison, Mr. W. Colles, and myself, had long before come to the conclusion that the case was one of a weakened and dilated heart, with chronic bronchitis; and that we had never observed any unequivocal sign of disease of the valves. To this point I shall return.

From this period to that of his death, Mr. Colles's attacks were more and more frequent, and the intervals less defined. The attacks may be described as almost always beginning with diminution of the flow of urine. The œdema of the legs, which was always present, then gradually increased,

the respiration became more laboured, and the cough and viscid expectoration more troublesome. The irregularity of the heart and the præcordial distress increased; and when the attack was at its height, orthopnoea, and sensations of weight and distress about the heart, with great diminution of urine, which then always presented a most copious lateritious sediment, were the prominent symptoms; and in each attack the tumefaction of the liver increased with great rapidity and to a degree that was most singular. On several occasions we observed the edge of the liver to descend to the umbilicus in the course of two days; and this condition as rapidly disappeared as soon as improvement in the other symptoms was established.

To the latter symptom Mr. Colles's attention was particularly directed, and he repeatedly mentioned to me the case of the Rev. Peter Roe as one presenting the same phenomenon.

These attacks were only relieved when the secretion of urine was not only re-established, but had become very abundant; and this condition was never brought about but by the use of mercury, followed by the ordinary diuretics. On several occasions the treatment by diuretics alone was attempted, but failure always followed; so that, when the severity of the symptoms, the extent of the anasarca—which on two occasions was general, even affecting the face and head,—the dreadful cardiac sufferings, and the pulmonary congestion, were considered, it could not but be admitted that to the repeated use of mercury alone the prolongation of Mr. Colles's life was to be attributed.

These attacks occurred generally once in every five weeks, and lasted from seven to fourteen days. In the intervals Mr. Colles was able to take walking and carriage exercise. His appetite was good, and his spirits and mental vigour excellent. There was still, however, some œdema of the legs, and the circulation was permanently irregular, with a more rapid

action of the heart. But soon, in some cases apparently from fatigue, in others from cold, and in most instances without any obvious exciting cause, the urine would gradually diminish; and if he did not at once use mercury, the formidable symptoms would rapidly appear.

In the autumn of 1842, Mr. Colles, having then recovered from one of his severe attacks, stated to me his conviction that his end was approaching; and that, though by the aid of medicine, his symptoms had been so often relieved, the time must soon arrive when remedies would fail; and with all the calmness of a true philosopher, and all the zeal of a great physician, he requested that the *post mortem* examination of his body should be made by Dr. R. Smith in the presence of his medical attendants; observing, that he trusted that the knowledge thus obtained would not be useless, and that he felt sure the observations would be made with accuracy and reported with truth.

Soon after this he wrote the following letter to Professor Harrison, which all right-minded men will read with feelings of emotion, and gratitude:

“ October 22, 1842.

“ MY DEAR ROBERT,—I think it may be of some benefit, not only to my own family, but to society at large, to ascertain by examination the exact seat and nature of my last disease. I am sure you will grant my request, that you will see that this be *carefully* and *early* done. The parts to which I would direct particular attention are the heart and the lungs, a small hernia immediately above the umbilicus, and the swelling in the right hypochondrium.

“ From the similarity of the Rev. P. Roe’s case with mine, I suspect that there is some connexion between this swelling of the hypochondrium and the diseased state of the heart.

“ Yours truly, dear Robert,

“ A. COLLES.”

This letter was the last great act of Mr. Colles's medical career, the last evidence of his unchanging devotion to that science on which he had already bestowed so many excellent gifts. That he was animated by a pure desire to advance medicine is obvious; and it is interesting to reflect that in our own time and in our own city the respective heads of the medical and surgical Professions have set the example of bequeathing their mortal remains for the benefit of that science for which they had laboured so long and so successfully(*e*).

But the fatal termination of the disease was more remote than he anticipated. The urgency of the symptoms having been, as I before stated, removed, Mr. Colles continued using very small quantities of mercury, and continued this course for many weeks, and during the summer of 1843 he regained a state of health which was indeed a surprise to himself. He had a good appetite; was able to use wine; he took carriage exercise; and even attended to professional business in his house. The anasæra was confined to the ankles and feet; and whenever any suppression of urine shewed itself, a little blue pill, followed by a diuretic medicine, restored the action. The diuretic which generally answered best was a combination of the infusion of digitalis with ammonia, ether, and tincture of cantharides: Mr. Colles's appearance improved, and he regained much of his flesh. In autumn another of the attacks of dyspnœa returned, and again yielded; and it was not until October that the symptoms commenced which ushered in the closing scene. These were precisely of the same nature as before: the dyspnœa, the bronchial irritation, the irregularity of the pulse, the swelling of the liver, and the suppression of urine, all appeared again; but there was this new circumstance, the exhibition of mercury, from which he had so often before

(*e*) On the 23rd of March, 1839, Mr. Colles exhibited to the Pathological Society of Dublin the morbid appearances in the hip-joint and the bladder of his highly-esteemed friend, the late Dr. Percival. On this occasion he stated that in doing so he was obeying the request of that excellent man and true philanthropist.

derived such advantage, now, for the first time, produced no good effect. It was tried in various ways, but in vain. The anasarca increased, and became once more general, and it soon was obvious that life could not be long preserved. Mr. Colles was now obliged to remain altogether in his chair, or propped up in his bed; and his calmness and fortitude under continued suffering was the only support of his sorrowing and anxious friends. After some time an extraordinary change took place. All the bad symptoms were increasing, but happily the dreadful orthopnoea gradually subsided, and for some time before his death Mr. Colles was able to lie in his bed and to enjoy refreshing sleep, and nothing could exceed his gratitude for this most unexpected mercy. Two days before his death his breathing became rapid; he had pain of a dull kind between his shoulders; the chest became extremely dull on percussion, for the first time bronchial respiration was observed in both the scapular regions, and a dry friction sound was extensively audible. Mr. Colles expectorated some dark, sanious fluid, with a very slight fætor, and finally sunk in the evening of the 1st of December, 1843, preserving his strength of mind to the last moment of his life.

The post mortem examination was made by Dr. Smith, in the presence of Sir Henry Marsh, Professor Harrison, and the author of this communication; and the following statement was made by Dr. Smith, at the Weekly Meeting of the Pathological Society, on the 9th of December, 1843.

Account of the post mortem Examination of the Body of the late Abraham Colles, Esq. M. D., communicated to the Pathological Society of Dublin, December 9th, 1843. By ROBERT WILLIAM SMITH, M. D.

“The surface of the body generally was œdematous, but the swelling was greatest in the hands and feet; the skin was slightly tinged with jaundice. On opening the cavity of the

thorax, it was observed that the the costal cartilages had been converted into bone: when the sternum was removed, the sac of the right pleura was found to contain about half a pint of dark-coloured serum, in which were suspended numerous flakes of lymph, which appeared to have been recently effused; the right lung was, throughout its whole extent, in a state of extreme congestion, and at its base was expanded into two large globular tumours, each about the size of an orange, heavy, and dark-coloured, though obviously of an emphysematous character; when divided through their centre, they were found to contain not only air, but also a considerable quantity of dark blood, of a venous character, producing an appearance very like that of the interior of the spleen. When the blood was washed away the surface of the section presented a highly vesicular aspect; the cells were large and very irregular. The entire of this congested lung, with the exception of a small portion at the apex, was more or less solid, but did not present any of the characters which distinguish solidification, the result of pneumonia; it did not break down under moderate pressure; the solid feel which it possessed arose from its extremely congested state.

* The sac of the left pleura was obliterated throughout its whole extent by organized adhesions, which were evidently of very long duration; the left side of the chest was contracted; the lung, smaller than natural, gorged with blood, and sunk back towards the spine, yielded to and broke down under a very gentle pressure: it presented a purplish red colour, did not crepitate any where, and resembled closely the appearance of the spleen, when under the influence of decomposition; the bronchial glands, in the posterior mediastinum, were enlarged, and contained calcareous matter. There was no effusion into the sac of the pericardium, nor any adhesion between its opposed surfaces. The heart was much larger than natural, but not proportionally increased in weight: its left cavities were collapsed and flaccid, while those

of the right side were distended with dark blood, especially the right auricle. The surface of the organ was of a pale brown colour; the quantity of fat upon it was much greater than natural; its muscular tissue, pale, soft, and greasy, was easily ruptured. The left ventricle did not contain any blood; its cavity was remarkably large, but there was no hypertrophy of its parietes; it presented an example of great passive dilatation: the left auricle was also empty; the auriculo-ventricular openings were natural; but the same may *almost* be said of the aortic orifice—at the attached margin of one of the valves there was a small particle of calcareous matter; it was not as large as the head of an ordinary sized pin, and in no way interfered with the due exercise of the functions of the valve; water poured into the cavity of the aorta did not enter the ventricle; the lining membrane of the aorta was stained of a deep red colour, and several atheromatous depositions were observed beneath it; numerous globules of oil were seen floating upon the surface of the blood, which collected in the chest during the examination of the heart. The sac of the peritoneum contained about a quart of fluid: the liver, though not enlarged, extended much below the margin of the ribs; it was of an exceedingly dark mahogany colour, presented a tumid and swollen aspect, and a rough and granular surface. When a section was made through it, the dilated veins poured out copious streams of exceedingly dark blood; the gall-bladder contained thirty moderate-sized gall stones. Upon the right side of the umbilicus there existed traces of a small hernia, which Mr. Colles had requested might be examined; when a section was made through the kidney, globules of oil flowed with the blood; the remainder of the urinary apparatus and the prostate gland were quite healthy.

“ Such were the results of this interesting examination, and the questions naturally suggest themselves, what was the primary lesion? and how far the different morbid alterations observed were dependent upon one another? For my part, I believe

that the pulmonary affection preceded all the others : the left lung was known to be the seat of disease for very many years before Mr. Colles's death ; its collapsed and solid condition, its diminished volume, its extensive adhesion to the spine and back of the cavity of the thorax, and the contraction of the left side of the chest, all favour the opinion that for a very considerable period, the functions of respiration must have been executed principally by the right lung ; and although, for some time, it may have been adequate to the increased exertion thus rendered necessary, ultimately its texture became impaired, its vesicular structure disorganized, and a generally emphysematous condition of the organ induced ; a condition which soon interferes with, and obstructs the pulmonary circulation. In this case, the right lung resembled in structure the vesicular lung of the reptile tribe, in which we know that the circulation is languid ; and in man, in proportion as the lung, in consequence of emphysema, approaches the vesicular state of the organ in the lower animals, the blood circulates slowly, it is imperfectly arterialized, there is a preponderance of venous blood in the system, and an undue quantity of carbon remains in the circulation. This slow and feeble pulmonary circulation induces congestion in the lungs, a state which prevents the free entrance of air into these organs, and this again reacts upon the circulation, for it has been shewn by experiment, that if the trachea of an animal be tied, the left auricle and ventricle, which receive the blood in its passage from the lungs, become at once emptied, and are not again filled, until the obstruction to the respiration is removed ; the right cavities of the heart, on the contrary, are found distended with venous blood, and remain so until respiration recommences. The congested condition of the lungs by promoting the free entrance of air, becomes another element in causing the blood to be imperfectly arterialized. But the injurious effects of the pulmonary disorganization do not cease here ; the deteriorated quality of the blood induces another series of mor-

bid phenomena, of even a more serious nature. The arterial blood containing an undue proportion of carbon, and assuming a venous character, becomes but ill adapted to nourish the substance of the heart, or stimulate it to action : its tone becomes impaired, its contractile power diminished, and it is found after death in a state of passive dilatation ; it loses its natural form, and lies, as it were, collapsed in the pericardium. The presence of the greasy matter which pervaded the muscular fibres of the heart in this case is also, I conceive, to be referred to the morbid condition of the arterial blood, and preponderance in the system of venous blood. We know that fat is a secretion from venous blood principally, and we find that it is formed most copiously wherever the venous blood bears a large proportion to the arterial. It is equally well known that whatever diminishes the activity of the circulation, tends to induce a state of adipose plethora, and to weaken the assimilating functions ; the superabundance of venous blood may likewise, I conceive, be inferred from the presence of free oil in the circulating system. I am strongly of opinion that if, in this case, life had been prolonged for a very few years more, the heart would have undergone the true fatty transformation, and that sudden death would have resulted, either from rupture of the heart, or in consequence of an apoplectic seizure.

“ It now only remains to make a few observations with respect to the condition of the liver. Upon several occasions during the progress of Mr. Colles’s illness, as has been mentioned, this organ was observed to enlarge and descend below the margin of the ribs, and after some time again to retire, so as hardly to be felt below the ribs ; the periods of its enlargement coincided with the occurrence of aggravated fits of dyspnœa, and the organ retired within its natural limits when the paroxysm of dyspnœa subsided. This interesting phenomenon was long since observed by Andral, in cases of cardiac disease, obstructing the course of the venous blood in the lungs, and it

affords another proof that the functions of the liver are supplemental to those of the lungs; the evidences of this fact derived from observing the condition of the foetal liver, before the lungs are called into action, its state in animals with vesicular lungs, incapable of aerating and decarbonizing the blood perfectly, as well as in examples of open foramen ovale, are so well known to physiologists that it is unnecessary to do more than refer to them. The phenomenon in question is, however, best elucidated by the observations made by the late Dr. Houston, on the circulating organs in diving animals(*f*); he has shewn, that in animals which are capable of bearing submersion for a long period, as diving birds, the porpoise, the seal, the otter, &c., the veins connected with the liver are dilated into enormous reservoirs, which serve as a temporary resting-place for the blood, when stopped in its free course, during the obstruction to respiration which occurs in the act of diving; and this provision or reservoir is much enlarged, and most generally extended throughout the venous system of the body, in those animals which are capable of enduring submersion for the longest period: in the others, whose submersion is only occasional, and that but for a short period at a time, when diving for their prey in shallow, inland water, the hepatic veins alone are dilated into receptacles for the blood retarded in its course; but in the seal and in the porpoise, who frequent deep waters, and whose submersion is more prolonged, the provision of a reservoir is extended throughout the greater part of the venous system of the body. These ingenious observations of Dr. Houston appear to me to admit of being legitimately made use of, to explain the occurrence of the occasional and temporary enlargement of the liver, in cases such as that under consideration; they serve to prove that it is a means of diminishing the dangers arising from pulmonary congestion, and a provision for retarding the cir-

(*f*) Dublin Journal, vol. viii.

culation of venous blood through the system, while respiration is seriously obstructed, and the lungs incapable of aerating the blood to maintain life. In conclusion, I have only to observe, that the bilious tinge of the skin and the formation of gall-stones in this interesting case, are most probably to be referred to the obstruction of the pulmonary circulation. The observations of Tiedemann and Gmelin tend to prove that, in such cases, the secretion of bile becomes more abundant."—*Reports of the Pathological Society*, 1843.

On the importance of these views of Dr. Smith it is unnecessary to make any comment. But I am not satisfied that, even if the disease of the lung was the primary affection in Mr. Colles's case, the same holds good in other instances of the combination in question. Dr. Smith, however, merely gives his opinion on the particular case before him. The detection of oil in the blood is of importance, as bearing on the weakened state of the heart; for Dr. Smith has made it extremely probable that the fatty degeneration of the heart, which may cause death by rupture, is induced by free oil in the blood, the result of imperfect oxygenation.

The little calcareous deposit in the aortic valve is hardly worthy of notice, as no one intimate with the disease would attribute any of the symptoms or physical signs to so trifling an alteration in such a situation.

When, however, we reflect that the peculiar group of symptoms and physical signs in Mr. Colles's case are not seen in ordinary cases of chronic bronchitis, with Laennec's emphysema, we cannot, I think, avoid the conclusion that something more than mere pulmonary obstruction is necessary to develop the peculiar and, as it were, special group of symptoms which he exhibited in common with so many other individuals.

In this case, the general character of the disease resulted from the reciprocal influence of the affected organs: and in addition we may see the effect of another modifying cause.

acting on the whole economy, for not only was the triple combination present, but there was also gout, influencing the symptoms and progress of the affection (*g*).

The following circumstances are met with in cases similar to that of Mr. Colles.

1st. A small, weak, and irregular pulse.

2nd. Dyspnoea on exertion, with occasional severe attacks of pulmonary distress.

3rd. A chronic bronchitis, with occasional exacerbations.

4th. A tumefied state of the liver, without signs of active irritation: this condition of the organ is singularly under the influence of various disturbing causes, and thus, in a few hours, the liver may enlarge so as to descend far into the abdomen, and, on the subsidence of the attack, as rapidly return to its former volume.

5th. The function of the kidney is liable to frequent aberrations, and suppression of urine commonly precedes and attends each attack of dyspnoea.

6th. Anasarca is established. It is at first local, but may become general.

7th. The impulse of the heart is diffused, its action feeble, and often so irregular as to render the analysis of its sounds a matter of some difficulty. Intermissions of suffering constantly occur, and then the heart's action is comparatively regular, though hardly ever perfectly so.

(*g*) It must be admitted that, notwithstanding the progress which has been made in our knowledge of local disease, we still require a more extended nosology, in which the combinations of disease will be described—combinations not only of various local affections, independent of any general disease, or other special states of the whole system, but also as occurring under the influence of general modifying causes, such as gout, scrofula, fever, neuralgia, &c. And much is also to be done in examining the differential characters of local diseases, as modified by combination, either with one another, or influenced by a general morbid and special state. Rokitsanski and others have given lists of the so-called incompatible diseases, which every day's experience shews to have been formed too hastily, while the more important questions as to the diagnosis of actual combinations are left singularly unsettled.

8th. Valvular murmurs are rarely observed in this disease.

9th. In some instances the exacerbation seems to commence by a gradual suppression of the secretion of the kidneys, while in others this symptom succeeds to an attack of dyspnoea.

10th. The disease is, I believe, in all instances, fatal, either by dropsy, coma, or, as in the case before us, by asthenic pneumonia.

Notwithstanding the frequency of cases analogous to that of Mr. Colles, the opinions of medical men upon them are too often different. One practitioner declares the disease to be of the liver; another, of the heart; another, that the lung is the seat of disease; while a fourth sees nothing but misplaced gout, or disease of the kidney. And even in the opinions as to the heart, there are great differences met with; but almost all concur in the existence of valvular disease, the ground of which is the remarkable and persistent irregularity of the pulse. And thus it often happens that the character of medicine is injured by these conflicting opinions.

But in most cases the symptoms are attributed to one or two conditions—disease of the heart, and disease of the liver. The advocates for the first, appeal to the irregularity of the heart and pulse, to the dyspnoea and tendency to anasarca; while those who maintain the other view, point to the enlarged state of the liver, the increase of this tumefaction coincident with the attack, and the curious fact, that there is no remedy like mercury for relieving the urgency of the symptoms.

The curious phenomenon of the hepatic tumour varying so remarkably has been noticed by Andral. I apprehend that we must attribute it principally to the enlargement of the organ, consequent on obstruction of the hepatic veins; but in cases where chronic bronchitis has long existed, I believe that there is displacement as well as enlargement of the liver. When, as is generally the case, the attack is accompanied by increase of bronchitis, the lung being already more or less in the

state of the emphysema of Laennec, a temporary increase of volume takes place, and the diaphragm is forced downwards; when, again, the affection of the lung is relieved, the liver re-ascends to its former position: but it is almost always to be felt in the epigastrium, and for an inch or so below the ribs; and thus, two causes acting together, one enlargement, and the other displacement of the liver, we can understand the sudden variations in the size and position of the tumour.

I have already spoken of the circumstance of the irregularity of the heart's action in these cases leading to the opinion that the valves are diseased. The progress of medicine, however, has shewn that the coincidence of valvular contractions, or other changes, with irregular action, is by no means so constant as was once supposed. A great number of cases have occurred with perfect regularity of the pulse, although with extreme and very chronic valvular disease; and, on the other hand, nothing is more common than to see a permanently irregular, intermitting, and unequal pulse, without disease of the valves at all. I have long been of opinion that irregularity of the heart's action is much more connected with the state of its muscular than of its membranous structures.

I have seen many cases similar to that of Mr. Colles, and in four of them I have had the patients for a length of time under the most careful observation. In three of the four, also, I have had the opportunity of *post mortem* inspection. In all, the symptoms were singularly similar; and the heart presented the following conditions:

1. The organ generally enlarged, but without increase of thickness of the ventricles.
2. The auricles, particularly the right, greatly distended and hypertrophied.
3. The valves healthy throughout.
4. No mark of inflammation of the heart, but its muscular structure somewhat softer than natural.
5. The liver enlarged, and greatly engorged with blood.

In these cases, the most remarkable irregularity of pulse existed for long periods of time. The pulse was small, weak, irregular, intermittent, unequal, and it was often impossible to ascertain its rate with any exactness. The sounds of the heart, too, were, as might be expected, so confused, that the analysis of the rhythm was almost impossible, particularly during the exacerbations of the disease. In most of these cases there was no valvular murmur: in one it existed for a short time, and then disappeared, and the dissection shewed the valves to be healthy.

This irregularity then, as I have before observed, is not to be relied on as a proof of valvular disease; were I to try to express the condition of the heart which it seems to indicate, I would say, it is one of weakness of the muscular structures, combined with irritation. The two most remarkable instances of this irregularity are, the advanced stages of pericarditis, and the combination of affections of which I have been treating. In both, the pulse is singularly similar; in one, the irritation has existed, or still exists, in the organ itself; in the other, it seems to be sympathetic.

It was on these grounds that I always held the opinion that in Mr. Colles's case there was no valvular disease, but that he had to contend with a weakened heart, acted on from time to time by various disturbing causes.

Before concluding, I may say a few words on the practical management of these cases. I think the following rules of treatment will be found useful in most instances:

1st. To avoid such measures as may depress the powers of life too far, such as bleeding, the continued use of digitalis, &c.

2nd. To allow the patient a moderately generous diet, and to permit the use of wine in quantities regulated by the patient's former habits, his actual state, and the effect of the stimulant on his symptoms.

3rd. To adopt every moral and physical means best adapted to preserve the general health.

4th. To meet the exacerbations by means calculated to relieve the congestion of the heart, lung, and liver, according as the suffering of each of these organs is more prominent.

5th. The use of cupping, moderate blistering, and, above all, the exhibition of mercury, are the means best calculated to relieve the patient in the exacerbations. Diuretics of the stimulating kind, given after the action of the mercury, will produce the greatest relief.

I have but one practical remark to make in addition—namely, that in some cases this combination of diseases occurred in persons who had been in the habit of using colchicum or bleeding for the repression of frequent attacks of gout; and when I consider my experience of the latter disease, I should certainly say, that in almost all the cases of cardiac, hepatic, and pulmonary diseases that I have seen in gouty men, the patients had repeatedly used colchicum for the repression of the disease; while in other cases, even in persons far advanced in life, in which the gout had been treated in a milder, an almost expectant way, the great viscera had escaped organic disease, notwithstanding the occurrence of many attacks of this singular malady.

ART. VII.—*Contributions to Midwifery, No. V. Further Observations on the Use of Ergot of Rye.* By THOMAS EDWARD BEATTY, M. D., M. R. I. A., Professor of Midwifery to the Royal College of Surgeons in Ireland, Physician to the City of Dublin Hospital, Vice President of the Dublin Obstetrical Society, Honorary Member of the Obstetrical Society of Edinburgh, &c., &c.

IN a communication lately made in the pages of the former series of this Journal, I dwelt at some length upon the injurious effects sometimes produced on the fetus in utero, by the administration of the ergot of rye to the mother during labour. I propose on the present occasion to call attention to results be-

nesficial to the parturient female, which follow the judicious administration of the drug. We are all aware of the formidable character of hæmorrhage after delivery; there is no accident that more completely and suddenly threatens the extinction of life, and there is none more calculated to alarm, and even to unnerve, the most experienced practitioner. There is another consequence of delivery, which, although not equally dangerous, is nevertheless productive of the greatest suffering, and is, at times, uncontrollable by the means ordinarily employed to procure relief,—I allude to the occurrence of after pains. Every practitioner has to encounter these very formidable and distressing consequences of labour, and although the means of combating them are well laid down in treatises on midwifery, and well understood by the Profession, it appears to me that we can go a step in advance, and adopt measures to *prevent* their occurrence in certain cases in which we have reason to expect them.

That certain women are more prone than others to uterine hæmorrhage after delivery, is a truth of which every practitioner is well aware, and that a patient who has once suffered severely from this accident is very likely to encounter a similar danger on every subsequent occasion, will be equally admitted as true. There are two very opposite conditions of the system that favour the occurrence of this formidable accident. The first is the full plethoric habit, where the heart is in strong and rapid action, and all the vessels are gorged with blood, as is indicated by the flushed skin, headach, thirst, and bounding pulse. The second is the weak, delicate, lax-fibred state, characterized by pale countenance, spare limbs, slow and weak labour pains, and feeble, though it may be rapid, pulse. Of these the first is that which bears the attack with the greatest impunity, and least danger to life. In that condition there seems to be a superabundance of blood in the system, whose loss, within certain limits, is more advantageous than otherwise, and from the toniccity that pervades the uterine, in common with the other muscular fibres of the body, the flow of blood

is more easily arrested when it exceeds bounds compatible with safety to life. In the second condition, on the contrary, every drop of blood that is poured out indicates its loss by a corresponding depression of the system; such patients, with their languid frames, and nervous, and often hysterical, disposition, at once shew the ill effects of hæmorrhage; they become rapidly weak and gasping, the pulse soon fades under the finger, and the loss of half the amount of blood easily and safely spared by the former class of patients, will place the life of one of the latter in the greatest jeopardy. In addition to this, there is not the same natural means of arresting the hæmorrhage that exists in the first described class; the uterus is languid, and slow to act, and when artificially excited to contraction, seems unable to continue the effort for any sufficient length of time, relaxation soon takes place, the deadly current again rushes forth, and again the struggle has to commence between the medical attendant and death.

In addition to the ordinary well-known means of treating uterine hæmorrhage after delivery, I have been in the habit, for some years, of placing great reliance on the use of ergot of rye in full doses; and although, from the precautions I am in the habit of employing to secure contraction of the uterus, cases of hæmorrhage have been rare in my practice, yet some have occurred in which I have derived most essential aid from this drug. The mode of administration is the same as that described in my former communication, viz., a drachm of the powder is infused in four ounces of boiling water, a little sugar is added, and half of the infusion, with the suspended powder, is given for a dose, and repeated if necessary. And here I would observe, that, to act beneficially, the drug must be employed early. It will not do to wait until the system has been exhausted, and the vital powers are reduced to the lowest ebb, for then the action of the ergot may be more prejudicial than advantageous, owing to the power it possesses of depressing the action of the heart. It will not take the place of

opium in restoring the balance of the circulation, and renovating the nervous system, in the last stage of that frightful accident; but, when given in proper time, before the loss of blood has been excessive, it will prevent the necessity of giving opium, by checking the flow of the vital fluid, and thus husbanding the strength of the patient. I do not intend to give a detailed account of all the cases in which I have employed the ergot to arrest hæmorrhage *after* it has commenced; I will only state generally, that in my experience it has never failed to effect this object; and I have the pleasure of being able to state that I never lost a patient from this accident who I had under my care from the commencement of the labour. I have seen patients die of hæmorrhage, no doubt; but these were cases where I was called in at the termination, just in time to witness the last struggle. Before I quit this part of my subject, I wish to advert to what appears to me to be a not very uncommon error, viz., that opium is a remedy for uterine hæmorrhage after delivery. This is an error which is calculated to do immense mischief, by inducing practitioners to give opium at a time when its operation is most detrimental to the patient. That opium is invaluable in the latter stages of these cases no one is more ready to admit than I am. It soothes that horrible jactitation, renovates the failing nervous energy, and acts as a restorative to the exhausted system; and when, by its salutary operation, sleep is procured, all danger is generally at an end. This beneficial action has, I am sure, led to its administration at an improper time; because it is good in one stage, it has been supposed to be applicable to another; and while it is only really valuable as a means of correcting the ruinous effects of loss of blood, it has been erroneously imagined that it is capable of arresting the flow in the earlier stage. This, I repeat, is a grievous error, and, if generally acted on, is likely to lead many an unwary practitioner into trouble. What we want in the early stage of uterine hæmorrhage is uterine contraction: but no one will

maintain that opium is capable of attaining this object. On the contrary, we know very well that opium suspends the action of the uterine fibres, and for this purpose we give it in cases of turning, where we wish to diminish the resistance to the introduction of the hand offered by the uterus. In like manner we give opium to relieve severe after-pains, which are produced by violent spasmodic contractions of the uterus, and we find they are suspended by that medicine. Does it not appear strange, then, that the same medicine should be given at a time when we should anxiously look for the most prompt and energetic uterine action, and when we should employ every means in our power to solicit this desirable condition?

That opium is capable of inducing hæmorrhage when given soon after delivery, I once learned to my cost. In November, 1839, a lady whom I had often attended before, was confined. She was subject to after-pains of the most intense kind, far exceeding any pains she ever had before the birth of her children; and on more than one occasion I was sent for in two hours after I had left her, and found her suffering the greatest agony, which I found very great difficulty in allaying. On the occasion above referred to, I wished, if possible, to anticipate the severity of the attack; and, accordingly, I had a dose with thirty drops of tincture of opium ready, and gave it to her as soon as the infant was born. The result was inertia of the uterus, and although she had never had hæmorrhage before, flooding soon came on. The removal of the placenta, by passing the hand into the uterus, did not control it; and, in spite of the most active employment of the ordinary means, the loss went on. So profuse was the deluge of blood, that I am convinced if I had not had my dose of ergot in my pocket, the delay necessary to procure it would have placed my patient in the greatest danger. However, by its timely administration, the paralysed condition of the uterus was overcome, the fibres contracted, and the rush of blood was arrested.

This was one of the most alarming cases of hæmorrhage I ever met with, and I have not the least doubt it was caused by the opium.

Let this valuable medicine, then, be given with a view to its proper object, and let it not be expected to do the very opposite to that for which we so often employ it. Given prematurely, it must do mischief: given at the proper moment, it will rescue patients from the grave. The ergot of rye should be our sheet-anchor at first, when we want to arrest the hæmorrhage, and opium afterwards, when we wish to restore the exhausted vital powers.

The principal object, however, of the present communication is not to treat of the means for arresting hæmorrhage *after its commencement*, but to recommend a practice calculated *to prevent its occurrence* in certain cases, where, from previous experience, we have reason to know it is likely to occur. There are some females, as I have already mentioned, who are more prone than others to this affection, and in whom every labour is followed by severe and dangerous flooding; and I conceive it to be a matter of the greatest importance to be able to avert so serious a calamity, when we have timely notice of the predisposition of our patient. With a view to attain this object, I have been in the habit, for some years, of anticipating the danger by the administration of the secale cornutum, immediately upon the birth of the child, and before hæmorrhage takes place, with a success that will be best estimated after a perusal of the following cases.

CASE I. Mrs. M.—This lady had been attended at the birth of several children by my father, and was always disposed to hæmorrhage after delivery. On more than one occasion the discharge was very abundant, and at the last accouchement she was reduced to a state of very great danger. I was engaged to attend her, for the first time, in the year 1835, and being aware of her disposition to hæmorrhage, as well from her own statement, as from the record of her case in my father's books, I

was determined to anticipate the accident, and prevent its occurrence by securing a full and permanent contraction of the uterus. Accordingly I prepared an infusion of ergot, one drachm to four ounces of water, leaving the powder in suspension, and as soon as the head of the infant had cleared the perineum, I gave her half the quantity. Due attention was paid to following the uterus down into the pelvis with the hand, and a proper binder was carefully adjusted. In a quarter of an hour after the birth of the child, the remaining portion of ergot was administered, and the placenta was expelled in a few minutes afterwards, accompanied by much less than the quantity of blood lost by most women after delivery.

I attended this lady again in the year 1838, when she had a premature confinement at the end of the eighth month. She had travelled sixty miles to town in one day, and on the following day the waters of the ovum were discharged without pain, which did not come on till forty-eight hours afterwards. The labour was weak and slow, and, as I had reason to fear her old enemy hæmorrhage, I gave her the ergot as before, and with an equally favourable result.

CASE II. Mrs. B.—In June, 1835, this lady was delivered of her third child, when I attended her for the first time. She had previously been under the care of two physicians of eminence, one of whom attended her in her first, the other in her second confinement. On both occasions she suffered from profuse and dangerous hæmorrhage after the birth of the child, which, particularly on the second occasion, was arrested with considerable difficulty. I prepared the usual dose of ergot, and administered it in divided doses, half, just as the head was about to clear the external orifice, and the other half immediately after the complete expulsion of the child. The result was most satisfactory; the placenta was thrown off without any difficulty, and very little blood accompanied its separation. This lady has been attended by me at the birth of four other children.

and, by adopting the same measures, always with the same success.

CASE III. Mrs. M.—This lady was very near dying of uterine hæmorrhage after her first confinement, which took place in the country. In the year 1838, she was again pregnant, and came to town to place herself under my care. She was a pale, thin, nervous, delicate person, and she looked to her approaching accouchement with great alarm. Labour set in early in the morning, and continued rather steady for three hours, when the pains subsided and a slight draining of blood took place. She continued in that state for two hours, the membranes having previously ruptured, when, finding the os uteri well relaxed, and the head low, I gave the usual dose of the ergot of rye; this soon restored the pains, and the head was born in half an hour. I then gave a similar dose, the delivery was accomplished, the uterus contracted firmly, the placenta was found in the vagina, and no further hæmorrhage occurred.

This lady has been confined under my care on three subsequent occasions, and by the adoption of the same treatment her labours have been safely terminated.

CASE IV.—Mrs. O., of a pale complexion and lax fibre, was confined in 1839, after a weak, slow labour, and in an hour and a half after delivery she had a very profuse hæmorrhage, which I found much difficulty in arresting. She also suffered most severely from after-pains, which continued, with great intensity, for two days. In 1841, she was again delivered after a long, weak labour. I gave the ergot just as the head of the infant had escaped from the vagina. The placenta was found at the orifice, and was easily removed without any loss of blood, and no after-pains followed this delivery. The same proceeding has been twice adopted with the same lady since that time, and in both instances I have had the satisfaction of witnessing the same happy results.

CASE V. March, 1845.—I was engaged to attend a lady.

Mrs. H., pregnant of her eighth child, and whose approaching confinement was contemplated with the deepest anxiety by her friends as well as by herself, owing to the great danger that attended all her former deliveries, from the occurrence of uterine hæmorrhage. She was delivered on the 9th of March, after a weak labour of twelve hours' duration.

As soon as the head of the infant came to press upon the perinæum I administered the first dose of the medicine, for I knew by the relaxed condition of the external parts, that there could be no delay, and therefore no danger to the child as soon as the uterus could be induced to act more vigorously. The pains were markedly increased in strength and frequency, and in twenty minutes after the dose had been taken the child was born; the ergot was now repeated; there was one small gush of blood and no more. The placenta was found in the vagina, from whence it was easily removed in ten minutes after the birth of the child, and her recovery was rapid.

Both the patient and her sister, who had been with her in all her former confinements, were astonished at the termination of this labour. Her sister, who, from sad experience, was quite conversant with open windows and doors, vinegar cloths, deluging with cold water, fanning, brandy, and all the other usual resources, assured me she could scarcely bring herself to believe that all was safely over, so unlike was this to any confinement her sister had ever had before.

CASE VI. occurred in the month of September, 1845. It resembled the former case in many respects, but was more formidable, owing to the complication of cardiac disease. I was called, without any previous warning, in the middle of the night, to attend this lady, Mrs. L., who had already given birth to several children. On my arrival at her house, I was informed by her nursetender that she was in the habit of having frightful hæmorrhage after her confinements, and that, unfortunately, the gentleman who had always attended her was engaged, and could not come to her. She said, more-

over, that the lady was subject to fainting fits during her labour. With this by no means pleasant intelligence I ascended to the bed-chamber, where I found a small, delicate-looking female, nervous, and a good deal agitated, of course, at seeing a stranger, instead of her usual attendant, in whom she justly had so much confidence. She was in weak and slow labour, and on examination, I found the os uteri dilated to the size of a crown-piece, and very yielding; the external parts well relaxed. She was breathing hurriedly, with occasional gasping, her pulse 130, and the heart beat in a very tumultuous manner. While I waited to observe the course of her labour, she began to fall off into one of her usual sinking states, from which she was roused by camphor and ammonia, and wine. I now made up my mind to finish the labour as speedily as possible; and, accordingly, I ruptured the membranes, and having prepared the ergot of rye in the usual manner, I administered the half at once. This had the effect of increasing the uterine action very obviously in a quarter of an hour. The os uteri soon dilated completely, the head came well down into the pelvis, and there was no more sign of fainting. At the end of half an hour I gave the remainder of the medicine, with the effect of augmenting the labour pains, and I was gratified to find the rapidity of the pulse greatly diminished as the labour progressed, until at last it did not exceed 100 in the minute. The child was born alive in forty minutes after the first dose had been given. The placenta was found in the vagina after the cord was tied and cut, and she did not lose two ounces of blood after its removal. I remained with my patient for two hours after her delivery, and left her, at the end of that time, perfectly well. Her old friend took up the attendance on the following day, and I received a note from her husband, stating that he had never known her to have so favourable a delivery before.

CASE VII.—In January, 1846, I was called upon to attend Mrs. W., a lady who had previously borne nine children.

She told me that, on every occasion, she had suffered most severely from flooding; and that, for twelve hours after each delivery she was accustomed to be deluged with cold water, to have doors and windows open, and to get brandy in large quantity, sometimes to the amount of a quart, before she was considered out of danger; the result being that she was never able to leave her bed for some weeks after her confinement. On this occasion her labour was slow and weak for four hours, when a slight draining of blood came on. I found the os uteri soft and yielding, and gave the usual dose of ergot, which soon quickened the pains. The child was born in half an hour afterwards, when the dose of ergot was repeated. The placenta came away in a short time, without the loss of a teacupful of blood. She was out of bed in a week, and in her drawing-room on the fourteenth day after her delivery.

The cases I have adduced are, I think, sufficient to shew the value of the practice I would wish to recommend. They are, in my mind, convincing proofs of the efficacy of the *secale cornutum* as a means of preventing one of the most formidable evils we encounter in obstetric practice. Indeed my confidence in its power is so great, that I now fearlessly undertake the management of cases which, without such aid, we must all dread to encounter.

It appears to me that the ergot prevents uterine hæmorrhage after delivery in two ways; first, by inducing a complete and permanent contraction of the uterine fibres, thus causing constriction of the blood-vessels; and secondly, by diminishing the force and frequency of the action of the heart, and thus rendering the effusion of blood less impetuous, and more easily restrained. In all cases where this medicine is given in a full dose, it has the effect of moderating the action of the heart, and in the sixth case I have mentioned its salutary influence over that organ was most marked and beneficial.

I have found the timely administration of the ergot most useful in preventing, or greatly moderating, those frightful

after-pains with which some women are so grievously afflicted. I have seen a patient writhe in agony, far greater than any she suffered during labour, for many hours after delivery, and I have given opium in such cases to an extent beyond what would be borne under other circumstances, with impunity, and with but little avail. Seeing the severe and intractable nature of such cases, I was induced to try the effects of the secale, hoping that by the rapid and permanent contraction of the uterus produced through its influence, the painful spasms of that organ might be averted. I was encouraged to expect this effect from what occurred in the fourth case just related, and in several instances I have used the medicine for this purpose, and with happy results. The mode of administration and the dose are the same as those employed to restrain hæmorrhage. It appears to me that the ergot proves beneficial in these cases, by causing perfect contraction of the fibres of the uterus, and keeping them in this condition, and also by preventing the formation of clots of blood in the interior of the organ, by whose presence the spasmodic action is excited and kept up. It is unnecessary to give the details of any of the cases in which I have given the drug for the purpose of preventing the occurrence of after-pains, but I think it right to state, that some cases have presented themselves in which its beneficial action was not so decisive as it has been in the greater number of instances.

Before I conclude, I wish to record my testimony in favour of the secale cornutum as a means of arresting severe and protracted menorrhagia, unconnected with organic disease of the uterus. For this purpose I employ it in doses of five grains, three times a day, and by its use I have frequently succeeded in cases that had resisted other plans of treatment. Great care should be taken to ascertain the absence of organic disease in these cases, and examination should be made, not only with the finger, but with the speculum, for ulceration of the os uteri, and polypus may exist, which will elude detection by

the former mode, but will be at once made manifest by the latter. It is quite plain, that if the discharge of blood be caused by organic disease, the flow will not be stopped by the internal administration of ergot of rye, and, therefore, if it be given in such a case, the value of the remedy will be unfairly depreciated. But if, after due examination, organic disease cannot be detected, I think the medicine may be relied on as a very efficient agent. I have often observed in patients who have taken the medicine in five-grain doses for two or three days, that they complain of a peculiar cramp-like pain in the hips and thighs, which becomes more severe if the medicine is continued. This I consider a very good indication, as in all the cases where it has occurred the disease has been speedily removed.

ART. VIII.—*Observations on Syphilis, as contracted from nursed Children; with Cases.* By JOHN C. EGAN, M. D., Fellow of the Royal College of Surgeons in Ireland; one of the Surgeons to the Westmoreland Lock Hospital.

[Read before the Surgical Society of Ireland].

IN what variety of ways the syphilitic virus may be communicated to the fœtus and the new-born infant, and what the precise sanatory condition of the parents in whose offspring the syphilitic taint may be developed, still form subjects for discussion. Thus, while it is, in this country, generally admitted that the disease may be absorbed into the constitution of the parturient female, so as to infect the fœtus in utero, and that it may likewise be transmitted during the process of lactation, through the medium of a diseased nurse; it has been questioned, and that by no mean authorities, whether the appearances met with in children, and which presented immediately at birth, were owing to a primary affection under which the mother had at that particular period been labouring, or to a constitutional taint contracted by the fœtus in utero(*h*). Again, it has

(*h*) Vide Maunsell and Evanson on Diseases of Children.

been affirmed, that in order to contamination, it is not essential that the parent should be the subject of disease at the time of matrimonial alliance; and cases are recorded in which infection was produced in the mother, and subsequently shewed itself in the offspring, where the father was pronounced perfectly free from the disorder many months prior to marriage(i). To enter into those disputed points would be outstepping the limits prescribed in these observations. The venereal disease, then, as it appears in the child, in whatever mode contracted, differs in many particulars from that transmitted by impure sexual intercourse from one adult to another. Thus, the only symptom commonly present to point out the syphilitic taint in the new-born infant is a desquamation of the cuticle, a senile expression of countenance, and sometimes, though rarely, the occurrence of a few eruptive blotches(j); these appearances would, in themselves, however, be insufficient to satisfy us as to the true nature of the complaint; and, therefore, we are naturally led to inquire more particularly into the history of the case before we can form a correct or accurate diagnosis.

(i) Colles on Venereal, p. 266; also, Observations on congenital Syphilis, by Dr. Campbell, in the Northern Journal of Medicine for May, 1844; and by Dr. Strange, in the same Journal for September, 1844.

(j) The above are the appearances which I have almost invariably observed in children born in the Lock Hospital, and although in that institution parturition is by no means an unfrequent occurrence, yet for many years there had scarcely been known an instance of the production of a living child, notwithstanding the mother had not unfrequently completed the full term of pregnancy, and the fœtus at birth was fully formed. On this account I was induced to adopt a plan of treatment, employed by the late Dr. Beatty of this city, and detailed by him in the fourth vol. of the Transactions of the King and Queen's College of Physicians, which consists in putting the mother under the influence of mercury. In Dr. B.'s cases, however, recourse was had to this mineral previous to conception; in the cases to which I allude, salivation was not produced until after the fifth month of utero-gestation; nevertheless, in the three instances in which I was fortunate enough to induce pyalism, healthy children were born after the full time. I may remark, however, that I found it most difficult to bring mercury to bear upon this class of patients, and more than once my efforts proved ineffectual.

But when, on the other hand, the child is born apparently healthy, and continues so for a period varying from ten days to as many weeks, any doubts which we may have previously entertained are, in a great measure, if not altogether, dispelled, by the supervention of a train of symptoms which, to the practised eye, are almost pathognomonic of the disease as it presents itself in the infant. Nor is it essential that these characteristic marks should follow any particular order, or observe any certain fixed laws, either as regards priority of appearance or precise condition of the parts affected, or that a number should show themselves in the same subject, in order to decide us as to their syphilitic origin. The snuffling, for example, which is often an early attendant on the disease, is in itself a symptom of sufficient importance to direct our diagnosis, even where no other marks of infection are observable. "There is seldom," remarks Dr Bird, "any real difficulty in the diagnosis of those cases, when once the practitioner has learned to recognise them. The characteristic snuffling will often enable him to recognise the existence of disease, even before he has confirmed his opinion by visual examination. The puckered mouth, the position of the very characteristic eruption round the lips and anus, in addition to the peculiar varnished and fissured appearance of the parts from which the scales have faded, will seldom, if ever, fail to convert a suspicion of the true nature of the disease, into positive certainty(*k*)."

I am not aware, however, that any distinct species of eruption can be said to be peculiar to this class of patients; that which I generally meet with bears a close analogy to the scaly form of the disease, which in the adult is usually consecutive on the Hunterian chancre; but even this is not uncommonly so ill-defined, that it is with difficulty we can pronounce upon it with any degree of certainty. The papular variety, if ever it presents, must be exceedingly rare; I do not recollect having seen a

(*k*) Guy's Hospital Reports, 2nd Series, April, 1845.

single example of it in infantile syphilis. I might here transcribe notes of cases which agree in many particulars with the symptoms as already enumerated; but as such are to be found scattered throughout the journals, and are familiar to the majority of practitioners, I shall, without further prefatory observations, enter upon the principal object of my communication, viz., the description of the disease as it shews itself in the adult when contracted from a syphilitic nursing.

The following examples are intended to illustrate the subject, and point out the identity of the constitutional symptoms which succeed to the absorption of the virus from this particular source, with those which follow its introduction into the system by the usual channel.

In the treatment of the following case, I purposely abstained from the exhibition to the nurse of mercury in any form, in order to mark more correctly the course of the disorder :

CASE I.—Ulcer of breast; pustular eruption; sloughing at the back of pharynx; inoculation; result negative.

Rose Mac Avinney, æt. 34, of temperate habits, a married woman, and mother of three children, her husband a man of irreproachable character, admitted June 1st, 1844.

States, that in December last she was employed as wet nurse to a child then seven weeks old, and to all appearance in the enjoyment of perfect health. In a week afterwards an eruption made its appearance, first on the nates, and subsequently on the inside of the thighs, which continued alternately declining and re-appearing, and was the only symptom of disease present, until within the last two months, when she observed a soreness of the mouth, and a disposition in the mucous membrane to become detached from the lips. Up to this period she continued to nurse the child without perceiving any ill effects result, although repeatedly recommended to desist.

On examination, an ill-defined scaly eruption is visible on

the inner part of the thighs and arms of the child ; a few spots are interspersed over its body ; there are no condylomatous excrescences, or any other affection in the vicinity of the anus or vagina, and the mouth is now perfectly healed.

An ulcer, about the size of an ordinary plum-stone, of an irregular form, with uneven and slightly everted edges, situated immediately to the right of the nipple, is seated on the left breast of the nurse, which she states first presented itself a few days after the mouth of the child became affected, and commenced in the form of a fissure, which has been gradually increasing in size to the present time. It is unattended with pain, and none of the neighbouring glands have become enlarged. For the last week she has been complaining of sore throat, an erythematous blush pervades the back of the fauces, but no ulceration is apparent : there is an increased vascularity of the palpebral conjunctiva, with a vitiated secretion from the glands, but the structure of the eye is unimpaired. Inoculated the arm with matter taken from the ulcer ; ordered, five grains of the iodide of potassium in decoction of sarsaparilla three times a day, the dilute nitrate of mercury ointment, to be applied to the palpebræ at bed time, and a lotion of subborate of soda with prepared chalk in equal parts of rectified spirits and water, to be kept to the parts affected. The child to take two grains of hydrargyrum cum creta three times in the twenty-four hours.

June 4th.—Nurse. Throat much improved ; ulcer on breast has assumed a healthy appearance ; complains of pain in the head and back ; medicines repeated.

17th. Has lost all pain ; throat well ; inflammation has left the conjunctiva, and the lids have ceased to adhere ; ulcer on breast decreasing in size ; no effect produced by inoculation.

Child. The eruption fading, and its general appearance very much improved.

30th. The ulcer which occupied the breast of the nurse

completely healed. No vestige of the eruption is visible on the child, which appears in perfect health.

July 5th. They were discharged.

October 19th. Nurse re-admitted. States that she has not enjoyed good health since her discharge ; shortly after leaving the hospital, copper-coloured spots appeared on the arms and thighs ; has been recently taking pills, which have induced pytalism. Her face is now covered with a pustular eruption, which is also very thickly scattered over the buttocks and upper part of the thighs ; the orifice of the vagina presents a tuberculated condylomatous appearance.

On looking into the throat, a granulated condition of the back of the pharynx is observable, covered by a thin transparent coating of muco-purulent matter ; experiences much pain and difficulty in deglutition ; has lost all appetite for food ; speaks in a low whisper, not, however, amounting to aphonia ; complains of pains in the knees, oppression of the chest, and a sense of "great weight," as she expresses it, at the heart, accompanied with palpitations ; perspires rather profusely at night, from which she finds considerable relief ; chest morbidly clear on percussion : has become very much emaciated since she was last in hospital ; pulse 120, small and weak ; gums tender, with mercurial fœtor. Child died six weeks ago, from a protracted diarrhœa.

Her throat was touched with the acid nitrate of mercury, and she was again put on the use of the hydriodate of potash, in combination with the compound decoction of sarsaparilla.

Under this plan of treatment, combined with nourishing diet, convalescence was slow but steady, the eruption desquamated, she gained flesh rapidly, and the throat was completely healed on the 24th of February, when she was discharged. She had another relapse of the sloughing sore throat for which she was treated in the hospital.

CASE II.—Ulcer of breast ; scaly eruption ; excavated ulcer of tonsil.

Mary Finn, æt. 36, of strictly temperate habits, married, and mother of four children: admitted March 14th, 1845. States that twelve months ago she was employed as wet nurse to a child, then six weeks old, and apparently in perfect health. About a month afterwards a "rash" appeared on its body, which induced her immediately to apply for medical advice. The child at this period was seen by my friend Dr. Isdall, who, from the nature of the symptoms, suspecting a syphilitic taint, prescribed the usual remedies, and at the same time recommended the nurse to relinquish the further charge of the child; contrary, however, to this advice, and perceiving the child improve daily under treatment (the eruption having now almost entirely declined), she persevered in nursing, until within the last six weeks, without perceiving any ill effects, the eruption occasionally appearing and declining. At this stage she observed, for the first time, blisters on the tongue and palate of the child, with a constant flow of saliva from the mouth; the lips shortly afterwards assumed a fissured appearance. As the child does not accompany her an examination of it was not afforded.

An ulcer is perceptible on each breast of the nurse; that on the right is about the size of a split pea, and is situated immediately above the nipple; the left is somewhat smaller, and engages the nipple itself, at its upper part; they were formerly attended with a discharge, but are now perfectly free from the slightest degree of moisture. She has undergone no form of treatment for the disease, with the exception of four pills (supposed to be mercurial), which she took within the last fortnight.

About this time an eruption shewed itself on the back of the forearms and wrists, and subsequently presented on the neck and forehead; the eruption is of the scaly description, and well defined; complains of soreness of throat, and difficulty in deglutition; on examination, the arches of the palate, uvula, and tonsils, are highly inflamed; the posterior part of the pharynx exhibits a morbidly dry appearance.

Ordered, a grain of the proto-ioduret of mercury, with a grain and a half of extract of hemlock, in pill, three times a day.

March 19th. Throat much improved, inflammation has nearly subsided; can swallow without any degree of uneasiness; the back of the pharynx looks paler than natural; ulcers on breasts have assumed a healthy aspect; mouth unaffected.

21st. Ulcers on breasts very much diminished in size; eruption commencing to desquamate; mouth slightly touched.

24th. Ulcers nearly healed; eruption fading; mouth sore, with mercurial fætor. Omit the pills, use an alum gargle, and take a warm bath.

April 7th. Discharged.

16th. Was re-admitted for sore throat. On examination an excavated ulcer is perceptible, occupying the posterior part of the right tonsil; the uvula and velum are very much relaxed, but not inflamed, and she speaks in a low whispering tone; a few spots of the same form of eruption have re-appeared on the arms. Ordered five grains of iodide of potassium, in compound decoction of sarsaparilla, three times a day, and to have a tepid bath.

Under this mode of treatment improvement was steady and uninterrupted, and she was discharged cured on the 30th of June.

The third and last case which I intend citing differs from the two preceding, inasmuch as the nurse was merely employed in caring, not suckling the child: for this latter occupation she was disqualified by age.

CASE III.—Lacerated wound through which the virus is supposed to have entered; eruption of doubtful character.

Eliza Walsh, æt. 60, of temperate habits, a widow, and mother of nine children, her husband dead seven years; admitted April 25th, 1845. States that, three months ago, she undertook, as dry nurse, the care of an unhealthy infant, which at that time was labouring under disease, manifested by sores

about the nates and mouth; the latter she describes as being of a brownish colour, and attended with a constant flow of saliva. While thus engaged, a scratch appeared on the neck of the nurse, whether produced by a pin, or torn by the nails of the child, she is not certain; and being in the habit of bringing the child's mouth in contact with the affected part, in order to induce sleep, thinks by that means the disease was communicated to her through the medium of the abrasion. On examination, a lacerated wound, of about an inch and a half in length, is perceptible, running parallel with the inferior edge of the clavicle on the right side, surrounded by an erysipelatous blush, which is gradually lost in the adjacent structure. The neck and arms are covered with an eruption, the character of which it is impossible to determine, being now in the stage of desquamation. She is at present suffering from the effects of profuse salivation, caused by pills prescribed at a dispensary. Ordered an alum gargle.

As she can masticate with difficulty, owing to the looseness of her teeth, a diet of flour and milk was prescribed.

April 30th. Ptyalism less profuse; eruption continues to decline. Ordered five grains of iodide of potassium, in decoction of sarsaparilla, three times a day.

May 2nd. Mercurial fœtor almost intolerable. Ordered a gargle of chloride of lime.

5th. Fœtor very much diminished; salivation less profuse; eruption fading.

12th. The mouth is now perfectly well, salivation having entirely ceased; eruption continues to desquamate; says she finds herself in every respect greatly improved. Omit the gargle; repeat the iodide of potassium.

19th. Eruption has almost disappeared, with the exception of a few spots, which have presented on the left arm during the last week.

Nothing worthy of note was remarkable from this to the 4th of August, when she was discharged cured.

It has been well observed that the syphilitic virus, when received into the constitution through any other source than the ordinary mode of infection, gives rise to a disease much more intractable in its nature, and far more difficult of cure, than that which we are in the habit of witnessing, as resulting from any form of sore (the phagedænic, perhaps, alone excepted), to which the parts of generation are liable; and this remark holds good, whether we consider it in relation to the structure primarily affected, or to the frequency of secondary symptoms likely to supervene on the absorption of the poison. The truth of this latter proposition is fully proved by reference to the foregoing cases, in which relapses after apparent cure form so prominent a feature.

That secondary symptoms are capable of communicating infection, is an announcement which, doubtless, at first sight, will seem rather startling to one extensively engaged in testing the disease by inoculation; and although I must confess that after repeated trials I have never yet succeeded in producing the characteristic pustule, which so often follows the introduction of matter from a primary ulcer, yet to deny the possibility of contamination by this means, after the proofs which are daily afforded to the contrary, would be sceptical in the extreme. Who that has carefully perused those cases so clearly reported by the late Dr. Colles, whose accuracy of observation, and acuteness in the discrimination of disease, was a source of admiration to all, can question for a moment, that certain constitutional affections are capable of propagating a disorder, which, when taken into the system, differs in none of its essential characters from the secondary effects as resulting from the ordinary venereal ulcer? And here permit me to digress, while I observe, that, however widely experience may have led me to dissent from the treatment recommended and adopted by that eminent surgeon, in those class of diseases to which, from the opportunities afforded me, I have been necessarily induced to devote more than a common share of atten-

tion, the respect which I always entertained for the superior order of talent with which he was endowed, must ever continue undiminished, and, let me add, that to his Treatise, as well as to his published lectures, I am indebted for much useful practical instruction.

The eruption, to whatever class or variety traceable, the peculiar appearance of the throat when attacked, the osteocopic pains, all demonstrate, with a degree of unerring certainty, its true origin. Is it not then a matter of surprise, that on an authority so high as that of the celebrated Hunter, the disease should be pronounced as one so different in its nature, and so dissimilar in its properties, as to be entirely without the pale of those affections which he denominated venereal? And is it not equally surprising, that a modern author, although admitting the possibility of infection from the child to the nurse, should seem so far to forget the leading features of the disease, as to describe it under the more obscure and not less inappropriate head of sibbens. On what foundation this opinion is grounded, or how far these two affections are identical, is best seen by referring to the author's own definition: "Sibbens or sivvens is a disease purely local(*l*);" and in alluding to this latter affection, Hunter remarks: "It may be allowable to add, that the yaws do not differ more from the venereal disease in curing themselves, than in this circumstance, that, like the small-pox, they affect none a second time(*m*)."

There are, however, one or two points of minor importance, to which I may briefly advert, as they have been particularly dwelt upon by some, as constituting a marked difference between this and the more common varieties of the disease. It has been remarked, for example, that when enlargement of the axillary glands succeeds to an ulcer of the

(*l*) A Treatise on Syphilis, by P. J. Murphy, M. D. 1839.

(*m*) Hunter on Venereal, by Adams, p. 531.

breast, produced from the mouth of an infected infant, suppuration, an event of so common an occurrence when the inguinal glands are engaged, never takes place; but how often are these latter class of absorbents attacked while conveying the virus from a chancre, situated either on the male or female organs of generation, and where no doubt can exist as to the nature of the ulcer, without such termination, and surely it will not be affirmed that the symptoms of infection are more equivocal because such a result has not followed.

Again, it has been observed that the labia pudendi of the nurse is often the seat of raised tubercles resembling condylomata, which are capable of communicating infection; and that these are not unfrequently visible where no form of eruption presents, and generally appear contemporaneously with disease of the throat(n).

Now, although it must be admitted that mucous tubercles are of frequent occurrence in females labouring under vaginal or utero-vaginal discharges, I am not aware of any instance in which the same species of disorder has been produced in the male from this source, and inoculation has as yet failed in furnishing me with any positive result. It would, however, appear that diseased nurses have, during sexual intercourse with their husbands, propagated an infection, which in external characters at least is nearly allied to that form of raised ulcer of which the pudenda happened to be the seat at that particular time. How to account for this apparent anomaly, together with the simultaneous affection of the throat, I know not, but feel assured the more we become acquainted with the precise characters of the disease, and the more frequent oppor-

(n) The affection of the throat, as described by Dr. Colles, is "a milky white state of the mucous membrane;" this appearance I have observed at the first onset of the disease, but in the cases which have come under my notice, where the disease originated in the unhealthy child, ulceration, either in the substance of the tonsil, or at the back of the pharynx, quickly ensued.

tunities we may possess of studying the nature, and comparing the symptoms of the disorder, as it presents in each individual case, in the same proportion will the difficulties which at present retard our progress be removed, and we will be enabled with a greater degree of facility to elucidate those phenomena which for a while would seem inexplicable.

It is a fact worthy of notice, and to which out of many cases I have not met with a single exception, that a nurse may continue to suckle a diseased infant with perfect safety to herself, so long as no abrasion of the cuticle, or ulceration in or about the nipple occurs; but when such takes place, she can no longer continue to do so with impunity. The same remark is made by Swediaur, who says: "In all cases of the kind that have come to my knowledge, either the nipples of the nurse were infected by syphilitic ulcers in the mouth of the child, or reciprocally the nipples of the nurse being attacked with ulcers, occasioned ulcers of the same kind in the mouth, nose, and lips of the child, and thus communicated to it a general infection(o)." From this, then, it would appear that infection is not transmissible to the child through the medium of the nurse's milk. Mr. Parker, however, in the last edition of his excellent work on syphilitic diseases, enumerates this as one of the modes of contamination to the nurse, but does not furnish any cases in support of that opinion. In the last case the details of which I have given, it was stated that the syphilitic virus was *supposed* to have entered through means of a lacerated wound, which occurred during the period the nurse was engaged in tending, but not suckling, the child. This, it will be perceived, I have not urged as the positive medium of contamination, although such an explanation would appear to me far from improbable, as I am well aware it was the opinion of the late Dr. Colles, that the disease may be transmitted from

(o) Swediaur on Syphilis, vol ii. p. 11.

an infected child by mere contact, in confirmation of which he cites numerous examples(*p*); but in none of the instances to which he alludes was the nurse engaged in suckling the child. Admitting, then, the possibility of contagion to the dry nurse, whose occupation consists in dressing, and perhaps sleeping with the child, it has, I conceive, been fully proved (negatively at least, as I am not aware of any instances to the contrary on record), that from the excitement induced in the system during lactation, or from the action of some unknown cause in connexion with that process, individuals thus engaged, although suckling a syphilitic infant, enjoy perfect immunity from the disorder, so long as no abrasion of the cuticle, or ulceration in the vicinity of the nipple, takes place; but as soon as this result has happened, the absorption of the virus, which is the natural consequence, produces the results already enumerated.

I may here insert a remark made by Dr. Colles, to the accuracy of which I can safely vouch, being verified by repeated observation: "I have never seen or heard," he observes, "of a single instance in which a syphilitic infant (although its mouth be ulcerated) suckled by its own mother, had produced ulceration of her breasts; whereas, very few instances have occurred where a syphilitic infant had not infected a strange hired wet nurse, and who had been previously in good health(*q*)."

In a paper which I had the honour of reading before this Society, near the close of its last session, I was enabled to shew, by statistical deduction from the cases that came under my immediate care in the Lock Hospital, that certain secondary and tertiary symptoms succeed to certain forms of primary sores. To this rule I have since met with very few exceptions; and here in passing I may observe, as one of the prin-

(*p*) During the last few days an additional example was furnished me by my friend Mr. Hope.

(*q*) Colles on the Venereal Disease. p. 385, 1837.

cipal causes which tends to create such a discrepancy of opinion on this point, that practitioners are too apt, in the anxiety which they naturally evince for a speedy and effectual cure of the patient committed to their charge, to overlook the precise nature of the primary affection; and consequently, when called upon to treat the same individual for secondary or tertiary symptoms, not having previously noted the character of the primary sore, they are unable to trace the connexion existing between it and subsequent accession of the disease.

But although the infection produced in a healthy nurse by a syphilitic child, does not, in its introduction into the system, appear to be influenced by any governing power, yet it would seem that when once a class of symptoms present, others, if they shew themselves at all, follow in a natural order. Thus, in Case I. a pustular eruption appeared, which was eventually followed by a form of sore throat peculiar to that particular class; and in Case II. a scaly eruption, which was succeeded by an excavated ulcer of the tonsil.

As has been already observed, the disease when thus contracted seems less amenable to the ordinary modes of treatment, the constitution becoming, as it were, quickly saturated with the poison; and as relapses after apparent cure appear to be so general in their occurrence, it may be expected that in conclusion I am prepared to suggest some plan of treatment which may tend to counteract the effects of the virus, and protect, in some degree at least, the system from repeated inroads of a disease, which, if allowed to proceed uncontrolled, is obviously calculated to undermine the general health, and give rise to other symptoms of a more serious nature, which, sooner or later, must prove fatal to the patient.

To laud the specific influence of any particular remedy, to the exclusion of all others, would, in this advanced age of medical science, be esteemed a useless and unprofitable task. Too long, alas! as the annals of surgery can testify, have the learned, in common with the untutored, wielded an engine

whose dire effects are but too feebly chronicled on the page of the history of our art, and are only advantageously perceived by reference to the records of Lock Hospitals of by-gone years.

That mercury is a most valuable auxiliary in the cure of syphilis, few at the present day will deny, and as such I conceive it peculiarly adapted to the cases under consideration; but, even in those instances, if used with a sanguine hope of effecting a permanent cure, the practitioner, it is to be feared, will be not unfrequently disappointed.

The preparation which I find most efficacious is the proto-iodide, pushed so far as to induce a mild degree of salivation. If, however, remedies are now laid aside, under the idea that a permanent cure has been effected, a few weeks will in general bring a recurrence of the same form of disease, or perhaps other symptoms denoting a latent taint, will be superadded. I therefore find it advantageous, before the effects of the mercury have completely worn off, to follow up the treatment by the administration of iodide of potassium, which ensures the patient the best chance of recovery. Under any form of treatment, however, relapses will occasionally take place.

From the silence of authors in general upon the subject to which the foregoing observations are more especially directed, and from the manner in which even the passing remarks of a few are scattered through different works, I deemed it not inappropriate on the present occasion, nor irrelevant to the objects of the Surgical Society, to bring the matter in a more connected form before the profession, and offer such comments as from time to time suggested themselves, while considering the bearings of the different points to which allusion has been made.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Nature and Treatment of Cancer. By WALTER HAYLE WALSHE, M. D., &c. London, 1 vol. 8vo. 1846. pp. 590.

OF the numerous diseases to which the human frame is subject, there is not one the very mention of which produces more terror in a patient's mind than cancer. Its cure, when internal, despaired of by the physician; its alleviation scarcely hoped for; its ablation, when external, alone depended on, and even then not with certainty, by the surgeon; it has become, to a great extent, a stumbling-block to the regular practitioner of medicine, and has therefore, as a necessary consequence, afforded a fair subject for the experiments of the empiric. That the ignorance of the true principles on which the cure of this formidable malady should be attempted depended much on the obscurity which has hitherto enveloped the true pathology of the disease, few can doubt. Microscopic investigation has, however, within the last few years, tended much to elucidate the real character of this and many other adventitious products; and we are not, we think, too sanguine in stating our belief that new and improved means of treatment must be the natural consequence of this removal of our ignorance, and that, in a short period, cancer will no longer be considered the incurable disease that it now is.

Such being our views, we looked with much anxiety for the appearance of Dr. Walshe's treatise, the more especially as his essay on this disease, in the *Cyclopædia of Practical Surgery*, induced us to place a high estimation on his capability of completing a task then only commenced. And we are glad that a perusal of the work enables us to assure our readers that it is one of the most valuable monographs that has ever issued from the British medical press.

The work is divided into two parts, the first of which is

devoted to the subject of cancer in general; and the second to the description of the disease as it occurs in all those tissues and organs of the body, in which experience has established the fact of its existence. The general history of cancer is considered with reference to its anatomy, chemistry, physiology, local morbid changes, general pathology, affinities and nature, and its treatment; to each of which subjects a separate chapter is devoted. Local cancer is described, in the second part, in connexion with the various organs, tissues, and parts, in which, with greater or less frequency, the disease presents itself.

In the introduction, Dr. Walshe defines cancer to be an adventitious product, of blastemal (*cell-structure*) formation, and peculiarly characterized by its being an infiltrating growth—or, in other words, possessing the property of destroying, by infiltration, the natural tissues amid which it is evolved. And this power is possessed by cancer alone; by which, therefore, it is distinctly separated from all other blastemal formations. Under the generic term, cancer, are included three species, the *schirrhous*, *encephaloid*, and *colloid*: the latter of which was first classed by our author with the other two; and with the correctness of Dr. Walshe's views we are fully disposed to coincide, for, to quote his own words,

“They agree *anatomically*, for they are all composed of elements forming a combination without its counterpart, either in other adventitious products or in the natural structures; they agree *chemically*, for they are all distinguished by the vast predominance of the protein-compounds in their fabric; they agree *physiologically*, for they all possess in themselves the power of growth, and of extending, by infiltrating surrounding tissues, and so producing an appearance of assimilating to their proper substance the most heterogeneous materials—an inherent tendency to destruction, and the faculty of local reproduction; they agree *pathologically*, for they all tend to affect simultaneously or consecutively various organs in the body, and produce that depraved state of the constitution known as the cancerous cachexia.”—p. 8.

Cancer, or carcinoma, is the name, then, of the genus, and includes the three species in all their stages, the peculiar form being characterised, when requisite, by the appropriate adjective.

The anatomical and physical characters of the three species differ materially. Their characters, as ascertainable by means of the unassisted senses, are shortly as follows:—*encephaloid* cancer, synonymous with Abernethy's *medullary sarcoma*.

when cut transversely, bears a striking resemblance to the substance of the brain, whence its name. Like all other growths, it appears to be composed of two materials—a stromal, or containing, and an intra-stromal, or contained element. Its cerebriiform appearance depends on the intra-stromal, rather than on the stromal material; the former being divided by the latter, which is of denser structure, into minute loculi, lobules, and lobes, so that the contained matter may often be removed with the greatest ease by gentle pressure, or by letting a stream of water fall upon it. This is most readily accomplished in the softer parts of the mass, for different portions of an encephaloid tumour vary much as to hardness or softness. The softer parts, also, are in larger lobes, have a greater abundance of pink spots, and are more opaque. The pink spots are indicative of the *vascular* character of this species of cancer, which leads to a striking difference between the vital phenomena observable in it and in the other species. Encephaloid cancer may present itself as a distinct tumour, or be infiltrated amidst the elementary molecules of the tissues. Though Cruveilhier states that he has met with instances of *encysted* encephaloid, Dr. Walshe denies that it ever is so, and thinks that the pseudo-cyst, formed by condensation of the adjacent cellular membrane, has led to the error. The most usual colour of the exterior of this form of cancer is whitish-yellow, but it is occasionally reddish, pink, or partially bluish. Encephaloid cancer acquires a larger size than almost *any* other morbid formation. It is nevertheless, sometimes met with exceedingly small. These are the general anatomical characters of encephaloid, but some varieties are met with, which resemble the boiled udder of a cow, whence the term *mammary* or *mastoid* is applied to them; some have the visible characters of sliced raw potato, and are called by Recamier *solanoid*; some, from their resemblance to the milt of certain fishes, were named by Monro (Tertius) *milt-like* tumour; some, from their section suggesting the idea of the kidney, were termed *nephroid* by Recamier; the name *hematoid* is applied to those which are unusually vascular; and the occurrence of interstitial hemorrhage, together with the rapid growth of fungous processes, has given rise to the term *fungus hæmatodes*.

Scirrhus cancer is distinguished by its hardness and toughness, though, when closely examined, it exhibits a stromal and a contained element: if cursorily inspected it appears almost homogeneous. A section presents a peculiar semi-transparent glossiness; but the appearance of white intersecting bands, so commonly described by authors, is an accidental

condition, seldom to be met with except in the mamma. The colour of the exposed surface is bluish-white, sometimes with a lilac-yellow, dirty fawn, or greyish tint. The chief characteristic of this species is its hardness, which, together with its toughness, is so great, that it gives rise to a creaking noise when the tumour is cut transversely with a knife. The pulpy, soft masses, which are so frequent in the interior of scirrhus growths, depend, our author thinks, on the development *de novo* of colloid structure in a scirrhus basis. With reference to the disputed point, as to whether this variety of cancer is possessed of vascularity, Dr. Walshe is of opinion that it decidedly is so: but so far as relates to the early stage of the disease, or, rather, before it becomes open cancer, our own opinion agrees with that of Dr. Carswell, that the blood-vessels which are discoverable belong to the natural tissues enclosed within the adventitious growth. Scirrhus may be either developed as a tumour or infiltrated: its shape is usually rounded or oval, but, when sub-cutaneous, it is oval. It rarely acquires a large size, seldom exceeding that of an orange. The anatomical varieties of this species are the *chondroid*, a section of which, in its early stage, presents an unusually shining aspect, and a bluish-white colour; the *napiform*, the divided surface of which has some similarity to a cut turnip; the *apinoid*, resembling the section of a pear; and the *hematoid*, which is comparatively of rare occurrence. We agree fully with the author in rejecting from the varieties of scirrhus the *pancreatic sarcoma* of Abernethy, and the *lardaceous tissue* of French pathologists.

Colloid cancer is characterised by its jelly-like appearance. The term is now restricted to that peculiar form of growth, a section of which exhibits a vast number of distinct, regularly-arranged loculi, of an oval or rounded shape, varying in size from that of a grain of sand to that of a large pea; the septa, or walls of the loculi, are distinctly fibrous, and it is the contained matter that exhibits the peculiar gelatiniform aspect. The consistence of the tumour is about the same as that of firm cheese, and the colour of a section usually greenish-yellow. The appearance of the mass is remarkably uniform throughout; the firmness, transparency, and other qualities being as distinct towards the centre as at the periphery of the mass. It is generally believed that colloid cancer is not vascular, and with this opinion Dr. Walshe coincides, but he has made no direct experiments on the question. It is met with either as a distinct tumour, or infiltrated. The latter form is usually found in the stomach, as also in the intestines and omentum. This species often attains a large size, some-

times extending over two-thirds of the anterior and posterior surfaces of the stomach, and in the form of tumour, being met with occasionally as large or even larger than a cocoanut. The general uniformity of colloid prevents it from being divided into anatomical varieties; the only one calling for notice is where this species is developed in a scirrhus basis, when it is termed *scirrho-colloid*.

To the chemistry of cancer Dr. Walshe has added nothing new. He gives, at length, M. Foy's analysis both of encephaloid and of scirrhus, from which it appears that the latter is distinguished from the former by the much greater amount of inorganic saline matters of which it is composed; thus, scirrus contains 16.60 of sub-phosphate of lime, while encephaloid yields only 6.30 of the same salt: this will also account for the greater hardness and density of scirrus. The analysis of M. Foy, however, omits all notice of gelatin as a constituent of cancer, which is consonant with Müller's experiments; but Morin, Collard de Martigny, Hecht, and L'Heritier all agree in enumerating it amongst the elementary principles both of encephaloid and scirrus. By maceration in spirit, the transparency of colloid cancer remains unaltered, while the other two varieties are rendered perfectly opaque.

The third chapter treats of the physiology of cancer, and under this head are considered the circumstances of its *origin, growth, decay, elimination, cicatrization, and local regeneration*. After reviewing in detail, and stating, which he does most ably, the objections to the different theories hitherto propounded as to the *origin* of cancer, the author proceeds to explain his own views, which, he premises, are based upon the disclosures made by the microscope, an advantage not possessed by those writers who preceded him.

The *formative* material of cancer is similar to that of most other adventitious products, namely, that species of fluid to which the name *blastema* is given; and which, though it has not been observed at the instant of its production, may, from the general character of blastema, and from the appearance it presents when demonstrable in the substance of cancerous growths already evolved, be inferred in nowise to differ from pus-blastema or the blastema of the natural tissues. Hence, then, the qualities of the primary drops are surmised to be "fluidity, slight viscosity, semi-transparency, homogeneousness, and total absence of solid particles." Of the *chemical* constitution of cancer-blastema, nothing is known. There is every reason to suppose that it is essentially composed of

liquor-sanguinis, modified in its *potential* or vital qualities, which modification, Dr. Walshe considers, is acquired while it is still mixing in the general circulating fluid, and, to a certain degree, during the process of filtration through the vascular parietes. But what may be the nature of the special difference by which apparently similar formative fluids produce the different varieties of blastemal growths, or even the various natural tissues, it is impossible to conjecture. The seat of the *germination* of cancer may be either in the interior of the vessels, in the substance of the vascular walls, or in spaces outside the vessels; it is so rarely met with in either of the two former situations, and when met with, its presence may be so easily accounted for, that the spaces external to the vessels must be looked upon as the seats of the germination of cancer-blastema; and in the vast majority of cases it occurs in the intervascular interstices of the various tissues and organs. The question as to the nature of the process by which the formative material is generated is one which, in the present state of our knowledge, admits of no discussion.

With reference to the *growth* of cancer, it is evident from what has been already said, that it is developed from blastema endowed with peculiar properties. Its ultimate solid constituents are granules; nucleated cells of spherical, elliptical, irregular, or caudate shape; free nuclei, and fibrillar substance; with these is associated blastema, and to these may be added capillary vessels, which are always discoverable, and fat globules, which constantly occur. Now, the generally received theory with respect to this, as well as other blastemal productions, is, that the spherical cell being formed, the caudate cell is produced by its elongation and compression, and by still further elongation the caudate cells are converted into filaments, the elements of fibrous tissue. Dr. Walshe does not deny the similarity of the mode of production of the cancer-cell to that of natural textures, but he still contends for the *heterologous* character of the disease, which he believes to depend either on a different arrangement and combination of atoms, or on the supposition that the cells, though apparently, are not truly, identical. We agree with the author as to the “heterologousness” of cancer, but we are inclined to refer it to the *potential* quality, before spoken of, with which cancer-blastema is originally endowed. Cancerous tumours enlarge, either by obtaining a supply of nutriment from vessels, as occurs in the natural tissues, or by the exudation of a structureless fluid, which becomes more or less solid by the generation of cells. The latter, or process of cell-generation, owes its discovery to the microscope. Enlargement

in this mode occurs either *endogenously*, as in colloid, where the primary cells contain within them the nuclei of a second generation of bodies similar to themselves, which are endowed with a similar procreative faculty; or *exogenously*, where the second and subsequent generation of cells must be formed external to preceding ones. This mode is observed in scirrhus, and most commonly in encephaloid. The endogenous growth of colloid readily accounts for the uniform sphericity of the loculi of which it is composed; and the non-sphericity of the loculi of scirrhus, and of many specimens of encephaloid, must be ascribed to the fact of their growing on the exogenous plan. The cell-growth also gives to cancerous products their stromal and intra-stromal constitution. With their growth cancerous tumours evince a tendency to decrease in density, no matter how soft they may originally have been. This change in consistence, which Laennec looked upon as the result of the healthy development of the product, Dr. Walshe considers as evidence of a process of decay. The dimensions of the different species of cancer, as before remarked, differ, but all of them increase in magnitude with time. This increase is, however, much affected by pressure, and in all cases is stopped when a cancerous mass is bound down by fibrous resisting tissues. Of the three species, encephaloid grows most rapidly, and scirrhus most slowly.

All cancerous tumours, sooner or later, exhibit a tendency to *decay*, which may be said to consist in a more or less complete reduction of the mass into a pulpy matter, and the formation of an opening in the natural tissues; in short, they undergo a process of softening. This, owing to their original hardness, is most manifest in scirrhus and encephaloid; in colloid it is only seen in the containing stroma, which when softened, rupture, and allow the escape of the soft intra-stromal contents. Though this process of softening is most generally ascribed to a species of inflammation, Dr. Walshe agrees with Drs. Carswell and Hodgkin in regarding it as most usually the result of gangrene. Without denying the correctness of this opinion in some rare instances, we think that there are few cases of softening in cancerous tumours which are not of inflammatory origin, and that this is the true explanation is proved (not to say anything of the general symptoms) by the microscopic character of the compound granule corpuscles of softened cancer, which are exactly the same as those of ordinary inflammatory exudation, a fact admitted by Dr. Walshe himself. Softening may commence in any part of a cancerous tumour, as well at the circumference as the centre.

The *elimination* of cancer is effected by changes in the

surrounding tissues, the chief of which are inflammation and purulent infiltration, and which are simultaneous with the process of softening in the tumour. Sloughing of the investing tissues then ensues, which terminates in that peculiar form of ulceration denominated cancerous. The ichorous discharge from a cancerous ulcer, when examined microscopically, consists of cancer-cells, more or less disintegrated, associated with oil-globules, crystals, epithelium-scales, pus corpuscles, blood-corpuscles, and certain elements of the surrounding structures. Animalcules have been sometimes met with in the discharges from open cancer, but these have been chiefly observed in warm climates. This has, to a certain extent, led to the idea held by some pathologists, of cancer being a parasite or of insect origin, a no less absurd than false hypothesis, as is now distinctly proved by microscopic investigation. We do not ourselves believe that the animalcules or insects thus met with proceed from the ulcer, we rather think that they are generated in the poultice, or other application which is used to the sore, for we have seen in more than one instance maggots generated in a poultice of linseed meal, to the great horror of the patient to whom it was applied, the ova of which were of course originally deposited in the meal, and hatched by the heat used in its preparation.

Cicatrization occasionally takes place over actual cancerous substance, but only when it is of the scirrhus species. The process of decay is occasionally checked when it occurs, but always only for a short period, and the disease advances afterwards with renewed activity.

The *local reproduction* of cancer in its original site, no matter how the disease may have been removed, is, it is now pretty generally admitted, of very common occurrence. The secondary formation is ordinarily encephaloid, though the original growth may not have been so, and therefore the secondary disease runs its course more rapidly.

In the fourth chapter, Dr. Walshe considers the *local morbid changes* which cancerous structures undergo, both with reference to their own constitution, and to the surrounding parts; the former act internally, the latter externally.

The *internal morbid changes* are congestion, hemorrhage, serous effusion—as described by Béclard, inflammation, gangrene, and various adventitious products, amongst which are included microscopical saline crystals, colouring matters, tuberculous matters, fatty matters, cartilage, osseous structure, parasitic animals (?), and a species of cancer different from the primary formation.

The *external morbid changes*, or those produced by can-

cer on the neighbouring parts, or in an individual organ in which it is developed, are either mechanical or vital. The former include detrusion, displacement, discoloration, serous infiltration, and blocking up of cavities. The vital changes are hypertrophy, atrophy, perforation, absorption, inflammation, infiltration with induration matter, extravasation of blood, and cancerous infiltration.

The fifth chapter treats of the general pathology of cancer. Cancer is peculiarly prone to affect some organs of the body, especially the uterus, the female breast, the stomach, liver, rectum, and testicle, in the relative order in which they have been mentioned. Thus, of 9118 cases of death from cancer, which occurred in Paris in ten years ending in 1840, in 2996 individuals the uterus was affected; in 2303, the stomach; in 1147, the female breast; in 578, the liver; and in 221, the rectum: and in the report of MM. Herrick and Popp, of sixty-seven persons who died of cancer at Ratisbon, the disease attacked the liver in twenty-four, and the stomach in nineteen instances. Although our author argues on the incorrectness of the views hitherto propounded as to this peculiar proneness of cancer to affect certain organs, he does not offer any theory of his own to account for it; he merely states his belief that sex exercises a powerful influence, as is shewn by the disease being so infinitely more frequent in the female than in the male breast, while the converse holds good with respect to the urinary organs. We fully agree with Dr. Walshe in thinking, that this fact is still open to and requires further investigation; and we are also of opinion that the cause why particular *parts* of organs are more liable to be attacked than others demands a similar inquiry.

The only structures in which primary cancer has not been hitherto observed, are tendon, ligament, the intervertebral tissue, and probably articular cartilage and the spleen, but in all of them secondary development is liable to occur. Encephaloid and scirrhus cancer have been met with in nearly every organ and tissue of the body; but encephaloid is rare in tendon or in the intervertebral tissue, and primary scirrhus in the common cellular membrane. Colloid cancer is described as only occurring in the abdomen—where it is usually attached to or in the neighbourhood of the stomach—the rectum, in the female breast, and in the spinal marrow. From the result of the examination of seventy-eight cases, collected for the purpose by the author, and of sixty-seven by MM. Herrick and Popp, it appears that in about 27·6 per cent. cancer is limited to the single organ or situation which it first affects,—a striking variance with the generally received opinion of the accumulation of cancer in the system. When

the disease affects numerous parts at the same time, it is generally of the encephaloid species, while scirrhus and colloid are usually limited to a single site.

The situation in which a cancerous mass is developed sometimes influences its growth; but the cancerous matter itself is never altered by this cause, either in its nature or properties.

Cancer is disseminated through the system, affecting either the neighbouring parts, which it does by infiltration or contamination, or influencing remote organs of the body; but by what agency such effect is produced is still a disputed question. Dr. Walshe admits two ways in which this dissemination may occur, namely, by direct lymphatic communication, or by translation through the venous system. We fully agree with the author as to the truth of both; the former, indeed, cannot be denied, and the only fact worthy of notice that has been brought forward in opposition to the latter,—the non-production of cancer in animals into whose veins the detritus and ichor of the disease has been injected,—proves merely, as the author observes, that a certain diathesis or predisposition is requisite for its development. Of the three species of cancer, colloid is the least prone to affect the system generally, and it is doubtful whether scirrhus or encephaloid is the most so; encephaloid is unquestionably most frequently met with as the secondary form, but this occurs in many instances where the primary disease has been scirrhus.

There does not appear to be any particular anatomical change in the state of the solids of the body in individuals dying of cancer, with the simple exception of a diminution in their general mass. This, however, is not the case with the fluids; the quantity of *blood* gradually decreases, becomes paler, and acquires a peculiar clamminess; but, microscopically examined, it does not appear to be altered, or to contain any elements of an adventitious character, either at an early or advanced period of the disease. Hyperinosis of the blood—increase in the proportion of the fibrin, decrease in the proportion of red corpuscles—becomes more evident with the progress of the disease, being scarcely apparent at its commencement; this state, as a necessary consequence, giving rise to a tendency to serous effusion. The *chyle* has repeatedly been found to contain cancerous matter. Dr. Walshe has carefully examined the state of the *urine* in cancerous patients, and the result of his observations is, that no condition of the urine is absolutely peculiar to the disease; it is, of course *febrile* when phlogosis or inflammatory action is present, and *anemic* when the cachexia is fully established.

That there are any premonitory signs indicating the ac-

cess of cancerous disease is very doubtful; at least if any exist, they are of such a character as not to attract the individual's attention. Dr. Walshe even states that he has seen cases in which the general health had appeared unusually good previous to the outbreak of the disease. This, however, does not agree with our experience, as in all the cases of cancer which we have seen, in which we could at all trace the previous history, the patients have for a length of time before they noticed the disease suffered from various dyspeptic symptoms.

The symptoms of developed cancer the author treats of under two heads, *local* and *general*.

Of the *local* signs, among the most important is the increase of the *tumour* to which the disease gives rise, a symptom invariably present, no matter what the species of the disease, or where it occurs. *Pulsation* is sometimes met with in encephaloid, owing to its vascular character; but when occurring in scirrhus, it is produced by the neighbourhood of large vessels. We have seen an instance in which the carotid artery was tied by an eminent surgeon for a supposed aneurism, which after death proved to be a scirrhus tumour seated in the bifurcation of the right carotid artery. The alteration in the *shape of organs and parts* in which cancer is developed is another sign of its presence; and, from the peculiarity of the parts which are sometimes attacked, the effect is not only frightful to the beholder, but, independent of the disease itself, produces an immense amount of suffering. There is no marked *sensibility* in scirrhus tumours, but pain is often felt in them if they have been roughly handled. The *pain* of cancerous disease is, however, a symptom of much importance. Dr. Walshe is of opinion that exaggerated notions as to its frequency and habitual severity are generally entertained. It is rarely felt in the early stage of the disease; and cases are not very uncommon in which cancer of any species or in any site terminates in death without giving rise to any appreciable pain. The author, however, we think, over-estimates the number of cases, which he conjectures to be about one-fifth, in which pain is absent in the course of cancerous disease from first to last. The usual character of the pain is described as lancinating, but in a multitude of instances, even in the mamma, it is not of this kind, and innocent growths often give rise to this sensation: it should not, therefore, be depended upon as a sign of the "benignant" or "malignant" character of a tumour. The peculiar species of cancer has much influence on the constancy and severity of the pain; thus, colloid is rarely attended with much suffering, and scirrhus usually produces a greater amount of agony than encephaloid. The other local signs of cancer enume-

rated by the author are *hemorrhage*, *local dropsical effusions*, and *derangement of function* of the part in which it is developed.

The *general* symptoms of the disease constitute what is called *cancerous-cachexia*. They are often altogether absent, and in all cases are modified by the species of cancer present. The most usual symptoms are febrile action of a low type, the pulse commonly retaining for a long time a somewhat wiry resisting character; the peculiar condition of the blood before described, and which gives rise to various murmurs in the arteries and veins, and to tinnitus aurium; failure of the appetite, with imperfect digestion, and usually obstinate constipation, alternating with severe diarrhœa; loss of flesh, accompanied by the characteristic straw-coloured, waxy appearance, and semi-transparent puffiness of the skin and mucous membranes, the bones also becoming atrophied and variously diseased; and, towards the close, intellectual dulness, with extreme debility and exhaustion. For the most part the victims of cancer have sad and gloomy ideas throughout the whole of their illness.

Cancerous disease most generally assumes a chronic character, but there are instances in which it ran what may be called an acute course. The author narrates one in which it proved fatal in two months from the outset. It sometimes, also, is intermittent in its course, all the bad symptoms disappearing from time to time, and the patients being restored to almost perfect health; the course of the disease is also in some cases latent, particularly when it is of the colloid species, or when it is seated in the brain.

The *termination* of cancer is either by cure or by death. The cure may be either spontaneous or the effect of treatment. The latter mode will be considered hereafter. The former occurs by resolution and absorption; by metastasis; by alteration of structure; by suppuration; by mortification; or by cicatrization after ulceration. The author cites cases in proof of these different modes of the spontaneous cure of cancer; but, without denying the possibility of such occurrences, we are disposed to agree with him, that a suspension of the progress of the disease is the most that can be hoped for from natural causes.

The *duration* of cancer varies from a few weeks to a considerable number of years. The mean duration of a number of cases collected by MM. Herrick and Popp, M. Leroy d'Étiolles, and the author, is 39·43 months. With reference to the species, individuals affected with scirrhus appear to live the longest, and those with encephaloid the shortest. The in-

fluence of sex does not seem to have much effect; but the progress of the disease is usually slower in the old than in the young.

From an analysis of the mortality tables of England and Wales during the last five years and a-half, the author calculates that a mean number of 2644·66 persons are annually cut off by cancer, or, as closely as possible, 176·83 of every million living; and that 8045·83 per million of all deaths are due to this disease. Mr. Wilde, in his valuable Commentary on the Irish Census, estimates the number of deaths from cancer in Ireland, in ten years, as 3890, or 1 in 305·23 of the deaths from all causes. Dr. Walshe, from an investigation of the mortality tables of London during the last century, finds that the frequency of deaths from cancer is considerably on the increase, but this he ascribes to greater accuracy in diagnosing and classifying diseases. M. Tanchou has, however, arrived at the same conclusion with respect to Paris, and M. Rigoni Stern with respect to Verona.

The *etiology* of cancer is considered under the heads of specific, predisposing, and exciting causes, and of predisposition.

The *specific* causes that are enumerated are, infection, contagion, inoculation, and venous injection; by all of which means cancer has been at different times supposed to be capable of being disseminated, but they have been all disproved by direct experiment.

The *predisposing* causes are hereditary and acquired. Though we have as yet no numerical statements as to cancer being a hereditary disease, we agree with the author in thinking that there is sufficient evidence in favour of such a presumption, which is certainly the safest for the practitioner to act upon. The acquired causes include certain organic conditions, social condition, and climate.

From carefully constructed tables by Dr. Walshe it appears that, though individuals of all ages are liable to be attacked with cancer, the commonly received opinion of the tendency to the disease reaching its maximum between thirty-five and fifty is inaccurate, as the mortality goes on increasing with each decade until eighty; the mean age in twelve hundred cases extracted from the Registers by the Author was 57·2 years. The influence of *sex* is very remarkable; from the author's calculations it follows that in England and Wales the female population is destroyed to about two and three-quarter times as great an extent by cancer as the male; these conclusions are corroborated by the reports of M. Tanchou as to Paris, and M. Stern as to Verona. The effects of *tempera-*

ment as a cause of the disease have not been satisfactorily proved, but the generally received opinion that women of high colour and sanguineous temperament are most liable to mammary cancer is probably correct. *Marriage or celibacy, menstruation, pregnancy, miscarriage, and parturition*, have not been positively ascertained to exert any influence on the development of the disease; but women who nurse seem to be less prone to cancer of the breast than those who do not. *General ill health, depraved habits, and mental affliction*, as may well be supposed, predispose to the development of cancerous disease. The *social conditions* which are enumerated as acquired causes are profession and social position. With reference to either no data are advanced which can be relied on—though the author has been at great pains to collect information on both points, and deserves much praise for the tables he has constructed—so many conditions have to be taken into account to establish the effect either of occupation or of rank in life on any disease.

The influence of *climate*, as far as has been yet ascertained, is, that the maximum amount of cancerous disease occurs in Europe, in comparison with the other quarters of the globe. In Paris the disease is very much more frequent than in London. Asia is tolerably exempt, but in China cancer is rather frequent. The inhabitants of Africa appear to be specially exempt; and in the tropical parts of America the disease is rare, but rather frequent in the northern parts of the same continent. From those statements it would follow that where civilization prevails cancer flourishes. From his examinations of the mortality tables of England and Wales, the author draws the conclusion that, in comparison with a country life, a town life is far from exercising any serious influence on the production of cancer; and he also established the singular fact, that the disease is most fatal to males in the country, and to females in towns.

The *exciting* causes are mechanical, chemical, and vital. Though the origin of cancer may in many cases be traced to blows or other mechanical injury, Dr. Walshe is of opinion that the influence of this class of causes is much overrated; and numerical results are still wanting to shew the relative frequency of cases in which the disease may be traced to such a source. We have no direct proof that chemical causes, such as the effects of the strong acids, or other irritants, excite the development of cancer. But with respect to vital causes there can be no doubt but that the disease is often excited in the cancerous diathesis by inflammation or irritation.

As a general inference from what has been said of the pathology of cancer, Dr. Walshe concludes that individual

predisposition—or, as he prefers to call it, *constitutional aptitude*—must be esteemed a necessary condition of the production of the disease. With the truth of this conclusion we are not disposed to quarrel; but in a practical point of view we look upon it as totally unimportant, until it can be explained to us in what the nature of this predisposition exists, and by what characters it is to be distinguished, neither of which does the author even attempt to conjecture.

From the recent observations of M. Heusinger it appears that most of the lower animals are liable to be attacked with cancer, and that it is most frequently met with in those which are domesticated.

With reference to the *diagnosis* of cancer, the author defers the consideration of specialties to the second part of the work, and in this place briefly enumerates the main grounds on which an opinion may be formed. In these we find nothing new; but we cannot understand on what grounds he thinks that “inoculation of the matter of sores of a dubious character may, as a last resource, be sometimes advisable;” when in a previous part of the book (p. 144) he states that “all evidence” (with the exception of a single experiment, the ultimate results of which are not known), “is totally opposed to the notion of the disease being inoculable.”

The *progress* in cancer must be unfavourable—modified, of course, by the site and progress of the disease, and by individual constitution.

The sixth chapter treats of the *affinities* and *nature* of cancer. The affinities of cancer are described first with reference to the alliance and points of dissimilitude between the three species; the latter of which the author exhibits in a tabular form, the length of which alone prevents our inserting it here. Secondly, its affinity with other adventitious structures, from all of which it has been already shewn to differ anatomically by its property of infiltrating the tissues. Thirdly, its affinity with various deposits, namely, colouring matter and tubercle; fourthly, with parasitical animals; and fifthly, with corroding ulcers. This chapter is principally a recapitulation of much of what has been already said, and therefore does not call for any analysis.

Before any opinion can be offered as to the true *nature* of cancer, it is necessary first to ascertain on what its destructive character depends—that property which has acquired for it the name “malignant.” We agree with Dr. Walshe that it would be better to relinquish the use of this term altogether, inasmuch as the employment of it too frequently prevents any further inquiry into the peculiar powers of this morbid growth. The view our author takes as to what

constitutes the peculiarly destructive character of cancerous disease may be shortly stated as follows :

We must look on the disease as constituting a general irritation of the system, and not merely as local ; but the baneful effects which it produces depend on local exudation ; and although the peculiar constitutional state may exist long previous to this local exudation, or, to use other words, formation of a cancerous tumour, we have no evidence of its presence. The most special attribute of this exudation is an extrinsic power of vegetation, by which faculty the system, already constitutionally diseased, is drained of its nutrient materials, and the vital energies are still further impaired by the ulcerations and discharges which soon take place. The blood is now secondarily altered in quality, and thus it gives rise to new local exudations, until the system, finally exhausted of almost every drop of pure blood, sinks in the struggle against the superior powers of the new existences it has created.

"Hence," adds our author, "it would follow that some special state of the natural solid tissues forms a most essential element of cancerous disease—that the tumour or tumours are, if I may so speak, but an accident of the malady, and a sort of local agent in evolving it to its final term ; and that, lastly, in a peculiar constitutional state (the nature of which cannot at the present day be even divined) reside the *fons et origo* of the disease."—p. 190.

Such are Dr. Walshe's views of the true nature of cancer. That they are novel and conjectural he himself admits, but we must give him credit for putting them so boldly before the professional public ; and although they are not altogether applicable to many of the Protean forms which the disease assumes, they convey to our mind the nearest approach to the true pathology of the disease which has yet been published.

To the chapter on the treatment of cancer, which next follows, we shall now direct our attention. The author considers in detail the various remedies which have been employed both internally and externally, for the palliation or cure of the disease ; and also treats most fully of the various surgical means by which the ablation of cancerous tumours has been effected, and of the results thus obtained. Much of this most valuable chapter we cannot even afford space to glance at, inasmuch as we feel ourselves imperatively called upon to make our readers fully acquainted with the new mode of treatment, as we may call it, described by Dr. Walshe, which, we confidently predict, will do much to remove cancer from the class of absolutely incurable maladies, amongst which it has hitherto been so justly placed.

Of the effects of the ablation by the knife, of any of the forms of cancer, every day's experience, when based on *numerical* results, tends more and more to establish the truth of the views of the Father of Physic, "that persons submitted to operation perish more rapidly than those who have not been thus meddled with." And, so far as relates to cancer of the breast, Dr. Walshe's carefully digested report of the experience of the most celebrated surgeons, both of ancient and modern days, cannot fail to convince the surgeon that in an operation for its removal he not only has but very little chance of curing the disease, but he runs a great risk of placing his patient in a worse condition than before.

The only medicines that the author's deductions and experience would lead us to place much reliance on are, *conium*, *arsenic*, and *iodine*, and even these often fail to influence the disease favourably, and in some instances their use, if persisted in, assuredly exasperates it. Conium was employed as a remedy in the treatment of cancer at a very early period, and great success was ascribed to its use; but the majority of modern physicians who have tried its effects, say that they have only found it afford temporary relief, and that even to effect this it must be given in very large doses, and its use continued for a very long period. With this latter view Dr. Walshe agrees, though he states that he has given ten grains of the extract (*well prepared?*) twice daily. We would not, however, be disposed to place much reliance on our author's experience in this instance, the more especially as he does not say how this "*well prepared*" extract was prepared; for it is now well known that the officinal extracts of the London and Dublin Pharmacopœias are almost, if not completely, inert; but we have found that even three grains of extract of conium, prepared as directed by Dr. Neligan, in his paper in the twenty-sixth volume of our former series, produces symptoms of poisoning. For these reasons, then, we think that the effects of hemlock as a remedy for cancer must be considered worthy of further investigation; and we hope that, should Dr. Walshe be induced again to try it, he will employ an active preparation of the drug—for example, the *succus*, or expressed juice, for which he will find a formula in the paper above alluded to.

Opinions differ also as to the advantage derived from the employment of iodine or arsenic in the treatment of cancerous disease, but the weight of testimony is decidedly in favour of the latter. Dr. Walshe, however, acted most wisely in administering them conjointly, and also, at the same time, directing the application of an iodine ointment to the tumour; and from

this treatment he obtained decidedly beneficial results. The preparation he used was the iodide of arsenic, which he administered in doses of from one-sixteenth to one-twelfth of a grain twice daily "without risk," though continued for several months. The ointment he employed consisted of a drachm of the iodide of lead (which he prefers, from its not producing any cutaneous irritation, and also from its being more actively promotive of absorption than the other preparations of iodine), to the ounce of lard. This is rubbed in very gently, twice daily, for several minutes at a time. Dr. Walshe first published his experience of the benefit of this conjoined treatment in 1840; and since that time, to use his own words:

"My confidence in the powers of iodine friction, especially when combined with the use of the iodide of arsenic internally, has increased. Nor does my present experience allow me to conceive a single doubt that tumours, actually and truly scirrhus in structure—tumours which would have run the common course of cancer—may be arrested in their progress by early and judicious use of these agents."—p. 206.

Dr. Walshe also quotes the highly encouraging cases and statements of Mr. Travers, Mr. Hill, and Dr. Ashwell, as to the effects of iodine frictions in the removal of scirrhus tumours.

But we must hasten to what we look upon as by far the most valuable part of Dr. Walshe's work, the new light which he has thrown on the treatment of cancerous tumours by *compression*, and which he recommends to be combined when practicable with the medicinal agents just referred to.

In the year 1809, Mr. Samuel Young first attempted to promote the absorption of scirrhus tumours by compression, which he employed in cases where the disease affected the breast, the cheek, and the upper lip. Of nineteen cases treated by him, twelve were cured, five considerably benefited, and two somewhat improved. These results led to the trial of this method in Middlesex Hospital, London; but the reporter of the committee, Sir C. Bell, stated that it had no claims to notice, *except for its power of alleviating pain*. This report,—although, as Mr. Young justly observed, much of the want of success may have arisen from defective management of the plan,—prevented further trials to any extent; and the difficulty of applying properly regulated compression has led to the almost total abandonment of this plan of treatment, notwithstanding that out of 127 recorded cases collected by Dr. A. L. J. Bayle, seventy-one were cured and twenty-six improved. Though Dr. Walshe does not give any numerical

results of his own experience of this plan of treatment, we agree with him in thinking that, with the improved apparatus of Dr. Neil Arnott, the efficiency of the remedies already referred to will be greatly increased by the simultaneous employment of compression ; and we earnestly call upon our readers to give his method a fair trial in all cases of external cancer where the situation of the tumour permits, the more especially from what we have already said as to the results of the use of the knife. We, therefore, make no apology for extracting in full our author's account of Dr. Arnott's method of employing compression ; to whom let us first offer our tribute of gratitude, as one who has, disinterestedly throughout his life, devoted great mechanical skill and a fertile imagination to the devising of means calculated to alleviate the sufferings of the sick.

“ Dr. Arnott's apparatus consists of a spring, an air-cushion supported by a flat resisting frame or shield, a pad, and two belts. The spring, which is of steel, is the compressing agent—its strength being varied with the amount of pressure it may be desirable to obtain. The shield, varying in shape somewhat with the circumstances of particular cases, is generally slightly convex on the external surface, of circular or oval outline, and formed of a rim of strong wire, connected at two opposite points by a flat piece of iron, which serves for the support of the spring, screws, &c., the whole being covered with jean. To the rim of this shield is sewn a sort of conical cap of soft linen, designed to receive the air-cushion, to keep it *constantly slack*, and prevent it from slipping about when applied. The air-cushion thus kept slack, fashioned into a sort of double night-cap, lying in opposition with the inner surface of the shield, and sufficiently filled with air to prevent the latter from pressing directly on the part, receives within it the tumour to be compressed. One end of the spring is attached by screws to the external surface of the frame, and the other end to a solid but soft pad, placed wherever the counter-pressure is to be made. The straps are used to keep the apparatus steadily fixed. Let us suppose that the breast is the region to which the instrument is to be applied ; then, the spring may either be passed over the shoulder, or round the waist ; the latter mode of application suits best, when the tumour is seated towards the external border of the breast, and inclined to slip towards the axilla.

“ The mechanical advantages of this mode of compression are, that the movements of the thorax are not interfered with ; that the amount of pressure may be regulated to a nicety ; that the whole morbid mass undergoes constant, equable, and uniform pressure : that the part is protected from external injury (a point of serious importance) ; and that, unless in a very few exceptional cases, the apparatus may (either with the shoulder or waist-spring), be very easily arranged. It is necessary that the amount of pressure should

be low at first (say 2lbs.), especially in the cases of nervous, irritable people—in fact that the instrument should rather supply a support for, than exercise pressure on the part; that the entire morbid structure (as well as any connected loose soft parts, which might be injured by accidental pressure of the rim of the shield), should be included within the cushion; and that in all cases there be a distinct thickness of air-cushion between the shield and the skin.”

The effects of compression, according to our author, are, removal of existing adhesions, total cessation of pain, disappearance of swelling in communicating glands, and, in favourable cases, perfect removal of the morbid production. It is applicable to all cases where a bony or solid growth exists behind the tumour and where a point for counter-pressure can be had. The chief causes which contra-indicate its employment are excessive bulk of the tumour and a localization which would place any portion of it out of the reach of pressure, and irritable skin and temperament. Moreover, much cannot be expected from its employment in cases of encephaloid. The treatment by pressure must be persisted in for a long period to prove of benefit.

Of agents calculated to alter the character of exposed cancerous surfaces, the following, which have by different persons been lauded as means of cure, appear only to afford temporary benefit: gastric juice, carbonic acid, preparations of lead, iodine, tar and other similar substances, turpentine, and terchloride of carbon (chloric ether).

Of the caustics which have been employed for the destruction of cancerous tumours, the actual cautery, caustic potash, bi-chloride of mercury, chloride of antimony, and nitrate of silver, have nearly fallen into disuse. The acid-nitrate of mercury is still much employed in the French Hospitals, where it is highly thought of. Arsenious acid—the application, we believe, always used by quacks—certainly appears to destroy the disease more completely than any other caustic, and were it not for the dangerous consequences it has so frequently produced would deserve to be more generally employed. Dr. Walshe gives the different formulæ for the preparation of arsenical paste which are to be found in most modern books on *materia medica*; but he omits to mention the important fact, that dangerous consequences are less likely to arise by employing a strong ointment—one containing a tenth or even a sixth part of arsenic—than a weak one. Applications of the chlorides of zinc, of gold, or of platinum, have of late years been highly lauded as caustic applications to cancer; of these, the former is decidedly the best.

In the chapter on the palliative treatment of cancer the only novel suggestion we find is, in recommending a change of climate, that a preference should be given to Egypt or Algeria, as being countries in which the disease is almost unknown.

The author next considers at great length the treatment of cancer by *ablation*, and the numerical documents which are in existence of the effects and results of the operation. As we have already observed, Dr. Walshe's conclusions are adverse to its employment. The following are the inferences which he draws:

"1. That the operation cannot in any individual case be recommended as likely to cure the disease.

"2. That excision cannot be undertaken without imminent risk of placing the patient in a worse condition than he or she was previously to the use of the knife.

"3. That the operation should, as a general truth, be abstained from.

"4. That of a given number of cancerous individuals, a considerably larger proportion will be saved from untimely death under the influence of well-devised and judiciously sustained treatment, aided, if this become necessary, by extirpation at a comparatively late period, than will recover under the influence of the operation (unprecedented by methodised treatment) effected at the very earliest possible stage of local development."—pp. 236, 239.

The first part concludes with a copious general bibliography of cancer, in which are included both British and Foreign works on all the varieties of the disease.

The second part of Dr. Walshe's book is devoted to the consideration of cancer of particular parts. The disease is first treated of as it affects the digestive organs and appendages.

Cancer of the *lips*, though not a common disease, is of tolerably frequent occurrence: the scirrhus species is usually met with here, its anatomical characters being frequently those of cutaneous cancer hereafter described. If unchecked, it spreads over the entire cheek to the ear, and even to the axilla and sternum, the salivary and neighbouring lymphatic glands being also affected; but general contamination of the system is rare. The disease, common among males, is rare in the other sex. When the ulceration is superficial, caustics, particularly the chloride of zinc or acid-nitrate of mercury, are employed with much benefit. The excision of cancer of the lip is generally looked upon by surgeons as a successful operation; but Dr. Walshe believes that the favourable opinions entertained respecting it are much exaggerated, for the disease

returns in its original site or elsewhere, usually in two or three months, and he quotes Velpeau's experience in corroboration of his own views.

Cancer of the *gums*, like that of the lips, is usually of the scirrhus species; it is more common in the lower than in the upper jaw, generally commencing towards the last incisor or the bicuspid teeth. The affection is most common in advanced age, and more so in males than in females. It is very difficult to distinguish it from simple *epulis*.

Cancer of the *tongue*, according to the Paris Registers, holds in respect of frequency a twelfth place amongst the different tissues and organs. The disease is almost invariably of the scirrhus species; its development and progress being in some cases extremely rapid, frequently also spreading to the buccal and gingival mucous membranes. The disease usually cuts off the sufferer by the intense cancerous cachexia which accompanies it; and when it has been excised, it is rapidly reproduced, and then hastens the patient's destruction. Though not unfrequently met with in females and in young persons, it, for the most part, attacks males of the age of forty and upwards. It is easily confounded with other diseases of the tongue, but the means of diagnosis we shall not recapitulate here, as they are to be found in the ordinary modern treatises on surgery. The author is of opinion that palliative treatment alone should be had recourse to, and that excision, as a curative measure, is altogether out of the question, as the disease invariably returns.

Encephaloid cancer of the *hard palate* is sometimes met with; but the disease, as affecting the *soft palate and uvula*, except when spreading from the neighbouring parts, is unknown. Cancer affecting the *tonsils* or the *salivary glands* is exceedingly rare, as is also *pharyngeal* cancer. Of the latter, the Paris Registers give four deaths among 8298 caused by cancer.

The disease attacking the *œsophagus* is of somewhat more frequent occurrence. It occurs most frequently at the upper end of the canal, behind the larynx, and is usually of the infiltrated schirrhous character. Dysphagia is generally the first sign of the affection, and it remains to the last as the most prominent and distressing symptom; towards the end of life the obstruction increases to such a degree as to prevent the passage of a particle of solid or even liquid food to the stomach, and the ingesta are rejected soon after they are swallowed, mixed with a glairy mucous matter. Pain is usually present in the seat of the stricture, and is often accompanied

with obstinate hiccough. It is important for the physician to remember, that the affection often assumes an intermittent character, there being almost complete remissions of pain and dysphagia from time to time. As may be supposed, inanition is the usual cause of death; palliation is of course all that can be hoped for from treatment. Dr. Walshe suggests that those cases of cancerous stricture of the œsophagus, reported as having been cured by persevering dilatation with bougies, were instances of simple thickening of the walls of the tube, and not carcinomatous; he, however, proposes a trial of Dr. Arnott's system of fluid pressure, the tube, of course, being introduced through the nares.

Cancer of the *stomach* is of very frequent occurrence, being in this respect only second to the uterus. The disease is usually primary, and most frequently associated with secondary affections of other structures, particularly of some of the contents of the abdomen, and especially the liver. It may be the site of any of the three species, but colloid and the milt-like variety of encephaloid are the most frequently met with, the mode of deposition being by infiltration. The sub-mucous cellular membrane is the special seat of cancerous disease of the stomach; the pyloric extremity being most frequently affected, next in order the cardiac, then the greater, and lastly the lesser curvature. The size of the organ itself varies exceedingly, in some instances being quite natural, in some enormously enlarged, and in others singularly reduced in bulk and capacity. The disease is more common in males than in females; it is seldom met with before the thirty-fifth year, and is also rare after sixty. Cancer of the stomach may frequently be traced to hereditary and family taint, and is also apparently often caused by the influence of mental suffering. The duration of the disease is variable; it is shortest when the cardiac orifice is the seat of the morbid production, longest when the body of the organ is affected. The symptoms of the disease vary much with reference to the part of the organ affected; but three stages are usually recognized. In the first, it is difficult to distinguish between them and the signs of ordinary dyspepsia; pain is ordinarily felt on pressure over the region of the stomach; vomiting is rare, and consists in the ejection of a small quantity of glairy fluid from the stomach in the morning; the constitution, in some cases, begins to sympathise even in the first stage. In the second, the epigastric pain is much more severe; the dyspeptic symptoms are much increased; vomiting is much more frequent, particularly when the pylorus is the seat of the disease; and, on careful exami-

nation, a tumour may often be discovered in connexion with the stomach; the general signs of the cancerous cachexia are also more evident. In the third stage all the symptoms became more intense; the pain is often lancinating, and frequently so unendurable that the sufferer rolls on the ground in agony; constant vomiting (the matter rejected being blackish or brownish, and often several pints in quantity) is present, and for the most part accompanied by distressing hiccough. The general symptoms of cancerous disease are most marked; and the patient dies in a state of perfect marasmus. Cancer of the stomach in some cases takes an intermittent course, and has been occasionally even a latent disease. Other diseases of the stomach may be mistaken for cancer, especially gastrodynia, and chronic gastritis; Dr. Walshe gives a long table of the symptoms supposed to be peculiar to each, but in the end he confesses (with which confession we are inclined to agree) that the diagnosis is extremely difficult in the earlier stages of the disease; the most certain signs are the vomiting of coffee-ground matter in large quantity, and the presence of tumour. Treatment is generally regarded as being only palliative. Among the different remedies put forward as specifics for cancer, conium is the only one the author looks upon as applicable to gastric cancer. In addition to the internal use of hemlock in this disease, which has unquestionably proved often of much service, we would suggest its external application over the region of the stomach in the form of large poultices, prepared with equal parts of the fresh powdered leaves and of linseed meal.

The *intestinal canal* is a frequent seat of cancer, the large intestine, particularly the rectum, being oftener affected than the small.

In the *small intestines*, the three species of cancer are met with, but colloid most frequently. The disease is almost invariably primary; it most usually attacks the duodenum and upper part of the jejunum, being rare in the ileum. The symptoms are those of dyspepsia, accompanied with abdominal pain; but the diagnostic signs chiefly to be depended on are the evidences of cancerous cachexia and the presence in the abdomen of a tumour which sooner or later becomes discoverable. Death is caused either by inanition, by peritonitis consequent on perforation, or by ileus. The course of the disease is generally progressive, but there are cases in which it is occasionally intermittent. As to treatment, the same observations apply here as in cancer of the stomach.

In the *large intestines*, when cancer, which it rarely does,

affects the cæcum and colon, its characters and course are nearly similar to those occurring in connexion with the small intestines. The *rectum* is very prone to cancer, both as a primary affection and as one propagated to it from the uterus, vagina, or neighbouring parts. It is usually of the scirrhus or colloid species, and occurs both infiltrated and as a distinct tumour. Though the disease may commence in any part of the intestine, its most frequent seat is from two to three inches above the anus, and its usual tendency is to spread upwards. The symptoms of the affection are ordinarily, pains, in the early stage, in the sacrum, nates, thighs, and hips, which depend on pressure on the adjacent nerves, and are therefore greatest in the tuberiform variety; a feeling of uneasiness in the rectum, as if its contents were never thoroughly evacuated, often accompanied by tenesmus; in the advanced stages the presence of pus, muco-pus, and often blood in the stools; obstinate constipation, the evacuations being flattened and ribbon-like, alternating with profuse diarrhœa and a state of prolonged collapse or fainting fits following the evacuation of the bowels. Signs of irritation of the neighbouring viscera, particularly the bladder, are also present, and a tumour is often to be perceived in the left iliac region, or may be felt with the finger introduced into the rectum. The precise state of the parts may be ascertained, in most cases, by the use of the speculum, or by the introduction of a wax bougie. Along with these signs and symptoms, the usual characteristics of cancerous disease are also present. Dr. Walshe thinks it probable that cancer of the rectum is more common in females than males; it is usually a disorder of advanced and adult age, but has been met with in extreme youth. The general treatment can be only palliative. Ablation with the knife is applicable to those cases alone where the disease is completely localized and does not extend higher than an inch above the anus. The author is of opinion, and we fully agree with him, that, as a *curative* measure, the operation does not possess any claims to attention, and should be had recourse to only as a means of preventing complete obstruction of the bowel. The operation for artificial anus, as modified by Amussat, promises, however, a more certain relief in such cases, and a greater prolongation of life.

Though it is stated by Cruveilhier and Velpeau that cancer of the *anus* is a frequent disease, numerical results prove that the reverse is the case. The symptoms are nearly similar, but much less severe than when the interior of the rectum is affected.

The *mesenteric glands* or *peritoneum* are rarely the seat of cancer, but the *omenta*, especially the *omentum majus*, are not uncommonly affected with the colloid species of the disease.

The *post-peritoneal cellular tissue* is not unfrequently the seat of cancerous formation, usually composed of scirrhus and encephaloid, in variable proportions, the latter predominating. The disease is invariably primary, attains often a great size, and is of rapid growth. The tumours are, nevertheless, in many cases, free from pain or inflammatory action, and they usually produce death, either by their mechanical effects on the neighbouring viscera, or by draining the system of its nutrient fluids.

Cancer of the *spleen* is exceedingly rare : in those instances in which it has been met with it was of the encephaloid species. It cannot be diagnosed unless when it produces a tumour.

Though cancer of the *pancreas* is not very common, it is one of the most frequent forms of chronic disease of this gland, and therefore acquires some interest ; our means of diagnosing its presence are also, of late years, better established. When this organ alone is affected, the disease is, of course, primary ; but when associated with cancer in more distant organs, it is almost invariably secondary : it has not been found in any instance to co-exist in the pancreas and salivary glands. Scirrhus and encephaloid have both been met with in this organ—the former more frequently, and usually of the lardaceous or mastoid variety ; the encephaloid species commonly occurs in the form of tumour, while the scirrhus is developed by infiltration. Part of the organ is usually only affected, the head being more frequently so than the middle portion or the splenic end ; and, although its proper texture is generally atrophied, the entire mass is invariably enlarged. Dr. Walshe adds nothing new to the signs of the disease, as described in Dr. Battersby's valuable paper, in the twenty-fifth volume of our former series ; whose views, however, with respect to the origin of the increased salivary discharge, he altogether misapprehends. Dr. Battersby looks upon this increased secretion from the salivary glands as a "balancement" of the deficient secretion of the diseased pancreas, and does not consider it, as Dr. Walshe states, as derived from this organ. The treatment is merely palliative ; we would, however, expect that in cancer of this organ especially the external use of conium, applied as above suggested, might prove beneficial.

In the *liver*, cancer is very frequently met with, either primary or consecutive. When the former, it is slow to con-

taminate remote parts. Both encephaloid and scirrhus occur in it, but a combination of the two is most common. When the disease is secondary, hundreds of cancerous nodules are usually found in the organ, varying in size, but rarely larger than a cricket-ball. Cancer of the liver is more frequent in males than females, and most commonly occurs between the ages of fifty and seventy. Along with the usual signs of cancerous disease, when this organ is affected, severe dyspeptic symptoms, and, in many instances, jaundice and ascites are present, but the best diagnostic mark is the increased size of the liver, its surface being irregular and nodulated, this latter sign being present in cases where the gland is neither enlarged nor atrophied. Death usually occurs in consequence of the cancerous cachexia, but in some instances is caused by peritonitis, produced by rupture of one of the tumours, or by pleuritis—the result of contiguous irritation or perforation of the diaphragm. The treatment is the same as in cancer of the stomach. The author states that he has seen the progress of the affection stayed by the free use of iodide of lead ointment, and the internal administration of liquor potassæ in infusion of taraxacum.

The *gall bladder* and *ducts* are also liable to be affected with cancer.

In the second chapter, cancer of the respiratory organs and their appendages is treated of.

Cancerous productions of the encephaloid species have been met with, but not commonly, in the *nares*, and in the *frontal* and *sphenoid sinuses*.

The *epiglottis* is occasionally partially destroyed by cancerous infiltration and ulceration extending to it from the pharynx. In the *larynx* both scirrhus and encephaloid have been observed, but very rarely, however.

The *trachea*, *bronchi*, and *bronchial glands*, are in some instances the seat of cancerous disease by extension from neighbouring parts, but are never primarily affected.

Cancer of the *lungs* is not a common disease: of the 8289 fatal cases of cancer recorded in the Paris Registers, in eight only is death ascribed to the disease as existing in these organs; and it is rarely a primary affection in, or confined to them alone. Encephaloid, scirrhus, and scirrho-encephaloid are met with, but the former much the most frequently; pulmonary cancer is sometimes tinged with melanic colouring matter. In cases where intra-thoracic cancer is primary, the right lung is more prone to be affected, but secondary cancer almost invariably occurs in both lungs. When the dis-

ease is primary, it is generally in the form of an irregular mass, frequently infiltrated, but very rarely in nodules; when secondary, it is commonly in the nodular or tuberosus form. Cancerous nodules in the lung vary in size, from that of a pin's head to a walnut or pigeon's egg; the shape being rounded or oval. The tuberosus masses are seldom larger than an orange, and generally of an irregular shape. All the parts of the lung may become the seat of cancerous formations; but the nodular masses are usually scattered throughout the lungs generally, and the irregular tuberosus mass generally usurps the place of the middle lobe of the right lung. The author is of opinion that the intervascular interstices of the lobules is the main seat of cancerous formation in the lung. The disease is not limited to any period of life, but it is more frequent in the male than in the female sex. There are not sufficient data on record to allow its duration to be calculated with any approach to accuracy. With reference to the symptoms of cancer of the lung, it would appear that when the disease is in the nodular form of secondary type, it commonly gives rise to no symptoms, and is both functionally and physically latent; in some instances, however, dyspnœa, and in others bronchitis have been observed. The primary form of the disease is in some rare instances latent, but is most generally characterised by very manifest symptoms. Pain of a continued kind is looked upon by Professor Stokes as one of the most diagnostic signs of the affection; but Dr. Walshe describes it as being more frequently intermittent or remittent. Dyspnœa and cough are also constantly present; the latter is either dry or accompanied with the expectoration of simple mucous or catarrhal, purulent, or bloody sputa. Hæmoptysis is a common symptom, being present, according to the author's observations, to a greater or less extent, in two-thirds of the individuals affected with cancer of the lung. Dysphagia may arise from pressure on the œsophagus; distension of the superficial veins of the head and neck, and stagnation of their contents, from pressure on the large venous trunks; and stridulous respiration, weakness of the voice, &c., from a similar cause affecting the trachea.

When cancerous disease is limited to the lungs, the general cachectic symptoms are rarely severe, and the individuals are generally cut off, long before any thing like wasting is produced. The disease is necessarily fatal, and usually rapid in its progress. The physician should also remember that death may occur suddenly. The treatment is purely palliative. Cancer of the *mediastina* bears much resemblance in its history to the disease when it affects the lung; it is usually scirrhus-encephaloid.

The *diaphragm* is not unfrequently affected with cancerous infiltration, by extension from neighbouring parts ; but primary cancer has not been met with in this site.

The third chapter treats of cancer of the organs of circulation. Cancer of the *heart* has not been hitherto systematically described. Dr. Walshe has been able to collect but twenty-five published cases of the disease, from which he has drawn up the account he gives of it. From this very limited number, of course, no very accurate conclusions could be drawn ; and in consequence, as the author states, of the invariable deficiency of clinical narratives, neither the symptoms, diagnosis, nor treatment can be established. The author has met with but a single case of cancer limited to the endocardium.

Isolated cancerous disease of the *pericardium* is also excessively rare.

Cancer of the *blood-vessels* has been anatomically described in the first part of the work, and the author does not say anything with reference to the symptoms it gives rise to, or its treatment.

Independently of the secondary affection of the *lymphatic glands and vessels*, already so frequently referred to, primary cancer of the former sometimes occurs ; it is more frequently of the scirrhus than the encephaloid species ; colloid has not been observed in them. Its usual site is in the groin, axilla, and neck.

The fifth chapter is devoted to the consideration of cancer of the urinary organs.

Cancer of the *kidneys* has of late only attracted attention. It is usually secondary, and either of the encephaloid or scirrhus species, the former being much more frequent. Encephaloid occurs either in the infiltrated or tuberos forms ; when infiltrated it is generally primary, and commences, like other organic diseases, in the cortical substance. The scirrhus variety is very rare, but there are some undoubted cases of its occurrence on record. In somewhat less than half of the entire number (thirty-five) of cases collected by Dr. Walshe, the disease affected both kidneys ; in the remainder it was more frequent in the right than the left. The disease occurs at all periods of life, but is more common in advanced age ; it affects males more than females. In addition to the ordinary signs of cancer, the direct diagnosis depends on the presence of a tumour in the region of the kidney, which is irregularly circumscribed, unevenly tuberos, and, though elastic, not fluctuating ; and on the condition of the urine, which is commonly essentially altered, owing to the presence of

blood or certain of its elements, of pus, or of encephaloid matter. Dyspepsia is a very frequent symptom, but the cancerous cachexia is rarely highly developed. The disease sometimes runs a latent course, when, as a necessary consequence, its diagnosis is very difficult. The treatment is, of course, palliative, but of all remedies, opium appears to afford most relief to the patient's sufferings.

The *supra-renal capsules*, the *renal pelves*, and *infundibula*, and the *ureters*, are sometimes the seats of cancerous formations, most generally from connexion with the disease in neighbouring parts.

Primary cancer of the *bladder* occurs more frequently than is commonly supposed; seventy-two deaths of the 8289 so often referred to are ascribed to this affection. Tuberiform encephaloid is the form in which the disease most commonly exhibits itself; scirrhus is comparatively rare. The common seat of the adventitious product is in the triangular space between the orifice of the ureters and of the urethra, and the parts immediately adjoining this space. Calculous disease frequently co-exists in the carcinomatous growth. Primary cancer of the bladder is almost peculiarly an affection of the male; in the female it is a secondary disease, propagated from the uterus. It is an affection of mature or advanced life. Among the most prominent symptoms of the disease is an irritability of the bladder, with a difficulty of passing urine, and pain shooting through the bladder and rectum after its evacuation; the urine is usually turbid, and frequently bloody; defecation is also performed with difficulty; and in many cases a tumour may be perceived in the hypogastrium. Death is most commonly caused by the disturbance of the urinary functions. Palliative treatment is alone to be had recourse to in cancer of the bladder. Operations for removing the diseased mass have been proposed and had recourse to by Civiale and others, but Dr. Walshe thinks that they are admissible only where the tumour is not truly cancerous.

There is but one case of primary cancer of the *male urethra* on record. The *female urethra* is liable to be affected with the disease, either by extension from neighbouring parts, or as a primary affection—when it is frequently consequent on ulcerations arising from venereal affections. If the cancer does not extend too deeply into the female urethra, ablation with the knife may be had recourse to with confidence, as cicatrization follows rapidly, and if the system generally be not tainted, nor cancerous diseases deposited elsewhere, a complete cure may be effected.

In the sixth chapter, cancer of the genital organs is considered; the disease in those parts affecting the female sex with most unusual frequency.

Primary cancer of the *penis* is usually of the schirrous species, and encephaloid rarely occurs except as a secondary affection, springing from a scirrhus base. It originates usually in the glands and prepuce, either from a warty increase, or by infiltrating the glans. In cases where the constitutional bias is strong, cancer is often developed in the penis by congenital or acquired phymosis, or by other causes which produce irritation of the part. The disease is most common in middle and advanced age. The usual symptoms of cancerous disease are present; the pain, however, is ordinarily not severe. Removal of the morbid mass with the knife affords the only chance of saving the patient's life; but unfortunately the disease returns almost invariably, and Dr. Walshe states, that he can find no recorded case of permanent recovery after amputation of the penis for unquestionable cancerous disease.

Cancer of the *vesiculi seminales* is not known as a primary affection. The encephaloid species is alone satisfactorily described as affecting the *prostate gland*, but cancer of this part is a rare disease, according to the author.

Cancer of the *testicle* is one of the more common forms of the disease in the male. It is almost invariably primary in this organ, and is seldom associated with other cancers. Scirrhus or colloid very rarely occur in the gland, encephaloid being so common as to represent the genus cancer in this site. Both testicles are prone to the disease, but are not liable to be affected in the same individual, the body of the organ being usually first attacked. The author assumes that the intervascular interstices of the gland are the primary seats of the formation. The disease occurs in persons of all ages, and is very frequently produced by external violence. The usual symptoms are, pain, with a dragging sensation in the cord, increased weight and enlargement of the organ, which soon assumes a spherical shape, being unequal and tuberosus on the surface; the cord becomes enlarged, and the scrotal vessels distended, and, in some cases, ulceration of the scrotum takes place, through which bleeding fungous growths spring. From the numerical results which Dr. Walshe has collected, it appears that the disease returns almost invariably after extirpation of the diseased gland with the knife; he therefore proposes a fair trial of compression on Dr. Arnott's slack air-cushion plan, accompanied by the internal use of iodide of arsenic, combined with the local inunction of the iodide of lead ointment.

The formation of a cancerous tumour within the proper cavity of the *tunica vaginalis* is of very rare occurrence, and but little is known with respect to it.

In the female, cancer has been met with in the *external organs of generation*, and also, but rarely, in the *vagina*.

Cancer of the *ovaries* is not a rare disease. Sixty-four deaths from this cause are enumerated in the 8289 of the Paris Registers. It occurs either primary or secondary, the latter chiefly by extension from the uterus. Scirrhus and encephaloid, both tuberiform and infiltrated, are met with in this site. Encephaloid growths here frequently attain the size of the foetal head, and when developed in the walls of cysts have been known to weigh from sixty-five to seventy pounds, or even more. The disease is most commonly confined to one ovary, but both are sometimes implicated, and it may occur at all ages, but is most frequent about the middle period of life. The symptoms of ovarian cancer are obscure, the more especially as the cachexia is slowly developed and imperfectly marked till the tumour increases so much as to be felt through the integuments, and the mechanical effects it produces on the pelvic viscera are apparent. With reference to treatment, the author insists most strongly upon the importance of giving a full trial to iodine, both externally and internally—the preparations already referred to being employed. In combination with the internal use of this remedy, however, we prefer the external application of conium in the form of plaster or poultice made with the powdered leaves, and, in one case of undoubted ovarian cancer, recently under our care, we have found this combination prove singularly beneficial. We fully agree with the author in looking upon the attempts to remove ovarian cancer with the knife as altogether unjustifiable.

As to the frequency of cancer of the *uterus* there can be no doubt. The disease is most commonly primary, and is possessed of comparatively slight tendency to contaminate the system generally. Both scirrhus and encephaloid occur in this organ, and both species usually assume the infiltrated form, the former being more frequent than the latter. Dr. Montgomery has so accurately described in a former volume^(r) of our Journal, the pathology, history, and treatment of cancer of the womb, that an analysis of this part of Dr. Walshe's treatise is, we feel, uncalled for, the more particularly as we do not think that he has either controverted or added anything new to the views there propounded.

(r) Volume xx. First Series. p. 433.

The *fallopian tubes* and *recto-vaginal cellular tissue* are, in some instances, the seat of cancerous formations, being usually involved in the disease from their contiguity to the uterus.

Cancer of the breast and appendages is treated of in the seventh chapter; the disease being very rare in the male, while in the female it holds the third or, probably, the second place among the various parts of the body prone to cancerous formations.

In the *female breast*, cancer is either solitary or associated, but is almost invariably primary; scirrhus is the most frequent species met with, encephaloid being very rare, and colloid excessively uncommon. The disease is ordinarily confined to one breast, the left being more frequently affected. With respect to magnitude, encephaloid, when it occurs, attains a large size here as elsewhere; the proper scirrhus tumour, however, does not exceed an orange in bulk; but, in the infiltrated form, it acquires greater dimensions. Mammary cancer may occur at any age, but is seldom met with before thirty; the generally received opinion that it is more frequent in women who have not borne children, requires, in the author's opinion, stronger proofs than have been yet given to entitle it to confidence. Dr. Walshe's description of the symptoms of the disease does not add anything to what is already known on the subject. He considers the opinion of Sir Astley Cooper correct, that scirrhus of the breast occupies from two to three years in growing, and from six months to two years afterwards in destroying life. Encephaloid occurring in this gland, runs an average course of from six to twelve months, according to Velpeau.

This is the special case in which compression on Dr. Arnott's plan, with the internal use of iodide of arsenic and inunction with iodide of lead ointment, may be had recourse to with every prospect of success, if not of actually curing the disease, at least, of arresting its local advancement. We would, therefore, again earnestly impress on our readers the duty of giving this mode of treatment a fair trial.

Cancer of the *male breast* is a rare disease; when it occurs, scirrhus is the species usually met. It runs the same course, and the symptoms are identical with those observed in the female. Numerical results seem to shew that excision may be undertaken with better chance of success in the male than in the female.

Under the head of cancer of the organs of innervation and appendages, we find that the *cerebrum* is the part of the

encephalon most frequently affected. The three species occur there, but encephaloid by far the most frequently; true scirrhus being excessively rare. Cancerous formations are developed in this organ, both of the tuberiform and infiltrated varieties; with respect to size, they vary much, nodules not larger than peas being sometimes met with, but tumours of a medium size are most common. Both hemispheres suffer nearly equally, but the two are rarely affected in the same individual. It is met with associated or unassociated with similar disease elsewhere. It may occur at all periods of life, but is most frequent in mature age. Cancer of the cerebrum often runs a latent course; pain is, however, in most instances, a constant symptom; but this pain has no distinguishing characteristic, and is often relieved by remedies calculated to prove beneficial in ordinary headach. The functions of sensibility, motion, and intelligence are commonly modified, but not uniformly so. The sensibility of the body generally may be either diminished, completely absent, or increased beyond the natural standard. Paralysis is present in scarcely more than one-half of the cases, but partial or general convulsive movements are not uncommon. The intellect may or may not be disordered. The sight of individuals affected with cancer of the brain most generally suffers, being either considerably weakened or altogether lost; the sense of hearing is also commonly blunted; but smelling and taste very rarely suffer. The cancerous cachexia is seldom well developed, but the digestive process is usually much deranged, as a consequence of which emaciation follows. From this account of the symptoms, it is evident that the diagnosis of cancer of the brain is very difficult—indeed, we would say, almost impossible—from other tumours existing within the cranium. The disease, we need scarcely add, is necessarily fatal, and any thing to be done in the way of treatment can alone be palliative. This description is also applicable to cancer of the *cerebellum*, the *pons varolii*, and the *medulla oblongata*.

Cancer of the *cerebral meninges* and *cranium* is considered under two divisions, the one where the morbid production perforates the cranium, and the other where it does not make its way outwards through the skull. In the former case the disease is usually of the encephaloid species (scirrhus rarely occurs) and forms a fungous growth externally. It originates either from the dura-mater, the pia-mater, the cerebral substance, the cranial bones, or the sub-pericranial cellular tissue. Cancerous formation in this situation is rarely attended with

development of the disease elsewhere ; it affects the two sexes with about equal frequency, and may occur at any age. Before the growth appears externally, the symptoms are of course similar to those observed where the brain is the seat of the disease. When the growth perforates the cranium, in addition to the usual symptoms of encephaloid formations elsewhere, the signs of a tumour proceeding from the brain, namely, the double pulsation and effects produced by compression, are also present. The course of the disease is usually slow in cancerous formations of this kind. The effects of meddling with cancerous tumours which perforate the skull have been almost invariably fatal ; the author, however, is of opinion that moderate pressure judiciously applied, should be had recourse to with the hope of arresting the growth of the mass.

The *vertebræ* are liable to become cancerous from the infiltration or tuberiform deposition of scirrhus, encephaloid, or scirrho-encephaloid ; the bodies of the bones suffering more frequently than their other divisions. The disease is commonly secondary ; and while limited to the area of the bony structure, the spinal marrow and its membranes undergo no alteration. The special diagnosis of cancer in this site is difficult, inasmuch as there are no peculiar symptoms by which it may be distinguished from many other diseases of the *vertebræ*—if we except the usual signs of cancerous cachexia, and the fact of its almost invariably occurring as a secondary affection. The treatment is merely palliative.

Cancer of the *spinal meninges* sometimes occurs ; it has been met with most frequently in young persons, and its origin has, in most instances, been traced to blows, falls, and other external injuries. Little is known respecting cancerous disease of the *medulla spinalis* itself ; nor does the author make any addition to our knowledge on this subject.

Cancer of the *nerves* is very uncommon, but there are some unquestionable cases of the disease on record.

The *skin* is very prone to be affected with destructive ulceration, which is frequently truly cancerous in character, and almost invariably of the scirrhus species. Its most common seats, as a primary affection, are the vicinity of the orifices of the mucous canals, different parts of the face, the anus, the parts of generation, and the scalp. The *face* is a not uncommon seat of cancer ; and, by its tendency to spread when developed there, the disease often causes vast destruction of parts, including, in some cases, the bones of the cheek, orbit and base of the skull, and the globe of the eye. The cachexia is not developed until after ulceration sets in, after which period the

duration of the disease rarely exceeds two years. The arsenical preparations have a special claim to attention in the treatment of cancerous excrescences of the skin; as long as the sore and its scirrhus basis remain superficial, the application of caustics, or the ablation of the tumour with the knife, may be had recourse to with every prospect of success.

Cancer of the *scrotum* (chimney-sweeper's cancer) is unquestionably produced by the action of soot. It may occur at any age; we have removed a cancerous growth of the scrotum from an individual aged 78, and there are cases on record in which the disease occurred in children. It is one of the few situations in which cancer may be extirpated with the knife, and the disease radically cured.

Cancer of either the *external* or *internal ear* is excessively rare. The disease often spreads to both, however, from neighbouring parts, when there is nothing peculiar in its symptoms or course.

For an account of cancer of the *eye*, the author refers the reader to works on ophthalmology. This omission of all notice of the disease, as it affects this organ, is, we cannot avoid saying, altogether unpardonable in a *monograph* on cancer: nor can we imagine on what grounds Dr. Walshe makes a special exemption with reference to the eye; he might surely as well refer to works on diseases of the uterus for a description of cancer of that body, or to works on diseases of the liver, stomach, kidneys, brain, &c., for an account of the disease as it occurs in those different parts.

The *osseous tissue* is liable to be affected both with scirrhus and encephaloid, but the former occurs more frequently. They are developed both in the tuberos and encephaloid form, and usually consecutive to the disease elsewhere. The *periosteum* and *endosteum* are also generally affected at the same time; but the cellular tissue uniting the periosteum to the bone is sometimes the sole seat of cancerous disease. In whatever structure of the bone cancer commences, amputation of the limb to which it belongs can alone be of any service; but the operation is of very doubtful efficacy.

A distinct section is devoted to the consideration of encephaloid disease of the *antrum*, almost the only species of cancer which occurs there. It is of much importance to diagnose a cancerous growth in this site, as the operation for its extirpation cannot be undertaken with the least expectation of cure, unless in its very earliest stage.

The *joints* or *bursæ mucosæ* do not, it is believed, ever become the seat of primary cancer.

Encephaloid originating in the *muscles* follows the same course as it does elsewhere.

In the eleventh chapter, cancer of the *thyroid* and *thymus glands* is described. The disease is very rare in the former, so much so that the author has been able to find but one authentic example of primary cancer affecting it. Cancer of the thymus gland still remains to be investigated.

The twelfth and last chapter contains an account of cancer of the *subcutaneous cellular tissue*. This is one of the most common seats of encephaloid; and its growth, symptoms, termination, and treatment, are all precisely similar to those described when the disease exists elsewhere. In this site also, but much more rarely, numerous nodular masses, having the characters of some variety of carcinoma, and bearing a resemblance to the secondary growths in the liver, lungs, and viscera generally, are developed over the trunk, extremity, and face. They do not give rise to any local symptoms, but they cause death from the general constitutional suffering and impaired nutrition to which they give rise. In some instances they resemble *molluscum*, and the disease has been therefore called *mollusciform cancer*; indeed, from the description given by those who have seen the disease, the diagnosis from that affection would seem to be next to impossible. The preparations of arsenic appear to have most influence over this variety of cancer.

1. *Die Pathologische Gewebelehre.* Von Dr. FRIEDRICH GÜNSBURG. Erster Band, mit drei Tafeln. Leipzig, 1845. 8vo. ss. 259.

The Doctrine of Pathological Tissue. By Dr. FRIEDRICH GÜNSBURG. 1st Vol., with three Plates. Leipsic, 1845.

2. *Atlas exécuté d'après Nature, au Microscope-daguerreotype.* Par AL. DONNÉ, M.D., &c., et LEON FOUCAULT. 1re et 2me Livraisons. Paris, 1845.

Atlas executed from Nature, by Means of the Daguerreotype Microscope. By AL. DONNÉ, M.D., and LEON FOUCAULT. 1st and 2nd Fasciculi. Folio. Paris, 1845.

1. FROM the vast improvement which has of late years taken place in the construction of the microscope, and the zeal and assiduity with which it is employed by anatomists of the present day, there is much reason for hoping that the revelations made by its assistance, in the intimate structure of the

various tissues of the body, will eventually lead to great additions to our knowledge in physiology and pathology.

The feeling of the necessity for prying more deeply into the structure of parts than is possible by the unassisted senses, is not of modern origin; neither were the discoveries of the first cultivators of microscopic anatomy by any means few or unimportant, notwithstanding the great inferiority of their instruments, which were nothing more than simple lenses.

The celebrated Harvey was the first to use the microscope in anatomical inquiry. He dissected insects by its aid, and observed the growth of the chick *in ovo*. It is, however, to Malpighi that is due the merit of having been the first to reap a rich harvest by microscopic researches. To him we owe the discovery of the corpuscles of the blood, and the capillary circulation; the main fact of the cellular structure of the lungs, and the principles of the formation of the secretory glands; the import of the sensitive papillæ; the lobular and cellular structure of the fat; the mode of growth of the hair; as much as can be believed of the structure of the spleen; the more important part of the anatomy of the kidney; the threefold constituents of the teeth, and many facts of less interest. Lewenhoeck, a few years later, discovered, among other things, the bone and cartilage corpuscles; the spermatic animalcules; the tubules of dentine, and the fibres of the enamel; the scales of the cuticle and of the coarser epithelia; the chyle and milk corpuscles; the muscular fibrillæ, and the transverse striæ of their fasciculi; tendinous and nervous fibres, and the fibrous and laminar structure of the lens and cornea(s).

Lieberkühn, Ledermüller, Hales, and others, subsequently cultivated the microscope with success; yet this instrument had fallen nearly into disuse about the middle of the eighteenth century, in consequence, principally, of its imperfection, and so it remained until its improvement in our days gave such an impulse to the study of minute anatomy, "that the mind can hardly apprehend the greatness and variety of the results which it each day presents." Normal histology, notwithstanding, is, as Dr. Gunsburg states in his preface, still far from having advanced to such a comprehensive acquaintance with the elementary components of each tissue, as to entitle it to be classed amongst the sciences; and it may seem, in consequence, premature to endeavour to found a science of the pathology of the tis-

(s) See British and Foreign Medical Review, No. xxviii. p. 478.

sues, to which a knowledge of their normal structure seems a necessary preliminary; yet, every discovery, in each of these departments, must tend to the elucidation and perfection of the other. Hence, whilst such men as Baer, Purkinje, Müller, Valentine, Schwann, Henle, Bischoff, Pappenheim, Hanover, Remack, Weber, Mandl, and Krause, have laboured to investigate the development and formation of the normal elementary components of the body, they have also devoted themselves to the study of pathological histology, in which they have been assisted by other excellent investigators—viz., Gluge, Gruby, Vogel, Engel, Rokitansky, Lebert, Bennet, &c.

To this last class belongs Dr. Günsburg, the first volume of whose work is exclusively devoted to morbid anatomy. It contains a plain statement of his own observations, unrelieved by cases or theories, which last he entirely renounces, as unprofitable to science. In the form of notes he occasionally compares the results of the researches of others with his own. Dr. Günsburg's arrangement seems a very judicious one for a subject which at present consists of little more than facts alone. Under the heads "inflammatory products," "tuberculosis," "the typhous process," and "cancerous formations," he traces the morbid alterations presented by the different organs of the body. A copious index facilitates reference, and the three lithographic plates subjoined to the work are filled with numerous figures, drawn by the author, illustrative of the microscopic appearances of the different morbid products he describes. As a re-production of the figures would be necessary to enable our readers to judge of the accuracy of his descriptions, we shall content ourselves with a translation of his theory of the typhous process, being the only instance in which he departs, with what success we leave to others to decide, from his matter-of-fact details.

For the proper understanding of the following extract, it may be mentioned that most German pathologists maintain that, during the progress of typhus, a certain morbid material, possessed of peculiar characters, but having a tendency to undergo certain metamorphoses, is poured out from the blood into the texture of organs and parts. The mucous membrane of the small intestine is that generally the first to become its seat; and hence they explain the frequency of intestinal ulcerations in the typhus of the Continent. This material, according to Rokitansky, has the greatest analogy with cancerous matter, and especially with that of medullary sarcoma.

“ *Resumé of the Phenomena of the Typhous Process.*

“ The effect of typhous infiltration upon the mucous membrane of the small intestine, is the deposit of a layer (whose depth is variable) of cells, which are remarkable for their smallness, transparency, the absence, generally, of a well-formed nucleus, and the diminutive size of their corpuscles; while, at the same time, other cells are developed of an elliptical oblong form, having lengthened opaque cell-nuclei, similar to the formative cells of the normal elements of the body. This deposit occurs in the submucous layer of connecting filaments, of which very few lie between the new-formed cells; the capillaries of the tissue are spread out between the cells, and are forcibly distended by blood corpuscles. The superposed mucous membrane retains, unaltered, its layer of epithelium cells, while its nerves, blood-vessels, and villi are gorged, and the blood-vessels are filled to their extremities with blood corpuscles. The mucous membrane and villi are covered by a heap of crystals, having the form of tetrahedric and triangular prisms. According as the infiltration advances, the cells of the typhous product are arranged in successive layers, one over the other, especially at the centre of the *plaque* (Wulst), so that they annihilate, by pressure, the epithelium and villi of the mucous membrane. The superior layers of the exudation are penetrated by vessels which are very much distended, while the inferior contain vessels deficient in blood, and which finally become quite empty. The cell layer is now forced to the inner surface of the intestine, and at its thickest part is covered with crystals belonging to the rhombic octahedric class. The mucous membrane bordering on the typhous *plaque* (or elevated patch) exhibits the characters of hyperæmia.

“ The layer of muscular fibre subjacent to the typhous *plaque* is penetrated by numerous adipose vesicles, and the corresponding part of the peritoneum is rich in dilated blood-vessels.

“ The cells of the typhous product are deposited in circumscribed places of the most convex part of the ileum, consequently in that portion of the intestine which enjoys free motion, and, more especially, in that part of it close to the much less moveable cæcum. Their site, in addition, is furthest removed from, and directly opposite to, the point of division of the large blood-vessels and the attachment of the mesentery. They are seated, therefore, at the termination of the arterial and at the commencement of the venous circulation, in the very minute capillary network, in situations which come least in contact with the solid, and most with the gaseous contents of the intestine; moreover, in that portion of it which,

being endowed with an inferior degree of mobility, cannot bring the solid contents in apposition with that point. Although the usual position for the development of the typhous ulcer is, no doubt, of great moment, and the foregoing relations may be looked upon as its exciting causes, still it is more advisable to refrain from touching on hypotheses, however apparently well-founded and probable they be.

“ The longer diameter of the typhous *plaque* corresponds with the axis of the intestinal canal; its size increases progressively, though not constantly, in the direction of the cæcum. The blood globules in the vessels which intersect it are larger than usual, being swollen by an increased proportion of watery particles. The villi of the neighbouring mucous membrane are much congested, and are often united so as to form large prominent convolutions, visible by the naked eye.

“ The spleen is enlarged in its diameters, and its capsule is stretched. The vessels are numerous, strongly distended, and increased by newly-formed canals. The layer of venous epithelium cells is reinforced, for the vessels over-filled with blood corpuscles require an additional protection against the more solid spleen-cellules. The blood corpuscles in the spleen vessels appear at the same time enlarged, and possess an increased elasticity. The liver exhibits the (not peculiar) alterations of fatty degeneration already discussed.

“ The heart, the serous coverings of which have secreted a quantity of serum into the cavity of the pericardium, is shortened in its long diameter, owing to the flaccidity of its muscular layers, which are of a pale brown colour. The cavities of the heart, and the large vessels, contain an easily-compressible, blackish coagulum, and a small quantity of much discoloured thin fluid blood of a reddish violet hue.

“ The inferior parts of the lung are very much congested with blood, and bronchial secretion; occasionally also some circumscribed lobules are filled with inflammatory cells.

“ The secretion of the kidneys exhibits a quantity of uric acid, combined generally with ammonia, *pflaster*, and cylindrical epithelium cells, in their perfect form, and in fragments.

“ From the meagre results derived from the pathological investigations of the alterations of the nervous system in typhus, there are no positive grounds afforded for attributing the origin of the disease to an affection of the nerves. On the contrary, the slight deviations from the normal state of the nervous system in typhus, are also found in other morbid processes, so that we are compelled to regard this affection as a secondary one. The most important phenomena are observed

in the intestinal canal, at that part where the last remains of the chyle are absorbed for its final use, the formation of blood. The blood-vessels of the villi are distended and filled with swollen blood corpuscles; the circulation of the blood is, consequently, judging from the over-distention, retarded; yet it cannot, therefore, be concluded that they are in the state of passive congestion, for the distention of the villi, and of their blood-vessels, occurs naturally on the confines of the arterial and venous circulation in the intestine. The product of these altered relations is the deposition of typhous exudation-cells, in the submucous cellular layer of the intestine. The why and wherefore of this, the connecting link between the altered relations of the circulation and the deposition of the typhous product, is a point not yet determined by observation. The deposit of triangular-shaped prisms and rhombic octahedric crystals in the greenish yellow, slimy, fæcal material which rests on the villi and mucous epithelium of the typhous tumefaction, is derived from the blood, which, having lost a quantity of its solid organized components, thus rids itself of a portion of its earthy parts also. The colour of the fluid which tinges the mucous membrane and the fæces, indicates that it contains a large proportion of the colouring matter of the bile, and proves that this fluid has not operated upon the chyle, in the earlier stages of its preparation, to a degree sufficient for digestion. The decomposition, therefore, of the bile thence resulting, is certainly one of the first excitants of the typhous exudation. The following hypotheses flow from this view, easily and plausibly. From the deranged relationship, and deficient application of the bile to the digestion of the chyle, accumulated in the duodenum and superior portion of the jejunum, there arises over-distension of the blood-vessels of the villi and submucous coat, and such a decomposition of the bile ensues, that its acids, with the bases contained in the chyle, unite with the insoluble and crystallized salts which cover the mucous membrane. The villi, by reason of this unorganized covering, are deprived of the power of absorption; the fat of the chyle, the biline, and the extractive matter of the poured out bile, dissolve the coverings of the swollen blood corpuscles, which are extravasated from the capillary vessels, and the remaining nucleus unites with the unabsorbed fat in the form of typhus product-cells.

“In following up accurately such an hypothesis, one comes to see what enormous strides the activity of the power of inference makes use of, to arrive at such conclusions: it is in the analysis of hypotheses that their untenability and inutility

becomes manifest. We must abide, therefore, from first to last, by facts alone. Certain it is, that, through the typhous exudation, the blood which continues to circulate becomes poor in fibrine, whence ensues the increased size of the blood corpuscles, the greater degree of fluidity of the blood, and the increased tendency to the deposition of the colouring matter. Thence, also, results the paleness and flaccidity of the muscular tissue and of the voluntary muscles, as well as the diminished nutrition of all the structures of the body. The swelling of the spleen is, in great part, the consequence of its being over-filled with blood, and of the newly-formed cells now necessary for the protection of its vascular circulating tissue. It occurs simultaneously with the first manifestation of the typhous tumefaction of the intestines, and therefore along with the first alteration in relationship between the quantity of material to be digested and the digesting powers.

“That over-distension with blood may be the cause of, and precede this condition of the digestive process, appears to me, from recent investigations, not at all improbable, since the results derived from the examination of seven individuals, deprived of life during the act of digestion, have convinced me of the undeniable fact, that during digestion the spleen becomes emptied of a portion of its blood, which causes a decrease in size of its tissue, accompanied by a corrugation of its capsule. It should be remembered that, as is common, a renewed hyperæmia and consequent distension of the spleen may make it unsuitable to the act of digestion, and that thus, through deranged digestion, may arise the first exudation on the mucous membrane, and from this may follow the abnormal *mixture* of the blood. The *pro* and *contra* as to the regular succession of these conditions, it is not possible so to balance as to arrive at any positive conclusion.

“In any case, however, the blood, by reason of these deposits upon, and under, the mucous membrane, is rendered poor in fibrine, and azotized materials. The blood thus altered produces, by its circulation through these organs, pathological alteration of the lungs and of the renal secretion.

“During the stage of exfoliation of the eschar, there is found, in place of the superior layer of cells forming the typhous exudation, a heap of small disintegrated corpuscles, having no trace of any contents, being similar to the disintegrated globules of the grey substance of the brain, and without intermixture of blood-vessels. The corpuscles which appear in place of the pathological cells arise from the disintegration or the pathological death of the latter. This destruction of

them arises hence, that the typhous exudation-process does not proceed downwards through the muscular tissue. After the exudation has advanced to the mucous membrane, and has annihilated it by pressure, it destroys the intervening blood-vessels, and then, owing to the impeded circulation, begins the disintegration of the cells. The destruction proceeds, in a retrograde manner, from the disorganized mucous membrane to the muscular coat, and it is often possible to discover corpuscles of the disintegrated exudation, in the superficial layers of the exfoliating *plaque*, whilst the cells contained in the inferior layers are found perfect. The border of the exfoliating *plaque* is formed, normally, of mucous epithelium, traversed by a few blood-vessels. The more energetically the exfoliation commences, and the farther it extends, so much the greater is the quantity and flow of blood in its margin; and so much the greater is the deposition of crystals upon the eschar, in the form of rhombic prisms, with oblique terminations, combined with truncated, lateral, and terminal edges.

“ Within the typhous ulcer, which has now been perfected by the separation of the eschar, exudation cells, whether normal or injured, are no longer to be found; and, as might be imagined, every trace of the mucous membrane, which originally covered the typhous *plaque*, has also vanished. Its floor is formed by the uninjured muscular fibre, which, in rare cases only, is found occupied by cells of the typhous product. The blood-vessels of this tissue are not numerous, whilst the elastic fibres of the peritoneal coat are, on the contrary, abundantly supplied with them; and an equally large quantity is found in the intact mucous membrane of the margin of the ulcer. The surface of the ulcer is occupied by the product of the disorganization, namely, crystals of rhombic-shaped prisms terminated by rhombic octohedra.

“ The spleen continues in a swollen state, being overfilled with blood, and produces new cells, which advance in organization to the extent of forming an epithelial layer and fibre. The liver continues to assume a more flattened form, its tissue being of a light brown colour, flaccid, and moderately infiltrated with fat. Its cells contain large racemose corpuscles, having fat-vesicles deposited between them. The heart exhibits, in a remarkable manner, the already described typhous condition; which is characterized by a shortening of its long diameter, by its pale brown colour, and relaxation of the entire muscle, especially at the base of the right chamber, which is sunk deeply into the cavity. There is scarcely

any traceable coagulation of the blood. The left chamber is generally empty, and the right is filled with a thin, fluid, discoloured blood of a violet hue. The bronchiæ are dilated; their mucuous membrane is pale and thickened, and covered by a reddish-white secretion, composed of inflammatory product-cells. The lung cells, either in circumscribed spots, or over the space of entire lobes, are filled with cells of the typhous product.

“ The secretion of an increased quantity of pure uric acid still continues in the urine, and always in connexion with an abnormally large quantity of urate of ammonia; then begins the secretion of the earthy phosphates, an increased separation of fragmentary epithelial structures, and the formation of carbonate of ammonia.

“ When the typhous ulcer neither produces a fatal result, nor yet assumes the healing process, it takes on the characters of *lentescence*; its edges are permeated by a greater number of blood-vessels; the mucous membrane in the neighbourhood of the ulcer is easily rubbed off; the mucous membrane of the upper part of the small intestine is filled with cells of the typhous product, which is extensively covered with crystals. At the commencement, therefore, of the *typhus lentescens* there is a general typhous infiltration of the upper portion of the ileum, whilst the tissue immediately surrounding the ulcer is deficient in blood, its villi are collapsed, and it appears thinned and pale.

“ In the cicatrization of typhous ulcers the edge of the mucous membrane is laid upon the floor of the ulcer, and, in those cases in which the ulcer has had its origin in a patch of Peyer's glands, a radiating, depressed, cicatrix is produced, from its becoming thinned by its tendency to reach the centre. This thin mucous covering of the cicatrix consists merely of cells of cylinder-epithelium, and is totally devoid of villi. When the ulcer is seated in the solitary follicles, the adhering and renovated edge of the ulcer is also applied over the depressions left behind by the destruction of the follicles, and of the cells of the typhous product, which at a later period occupied their place. It is by means of the replaced cylinder-epithelium, which has fallen short of forming regular villi, that the bridge-like productions of mucous membrane are formed between the depressions, whose floor consists of muscular fibres alone, and thus arises the reticulated cicatrix. Later observations have produced in me some doubts whether the last form is constantly due to cicatrization, and not also, in certain cases, to the absorption of the typhous

product. But its composition being perfectly analogous to that of the excavated cicatrix, its coexistence with the latter, the absence of villi upon its mucous surface, the newly-formed epithelium cylinders, and the absence in it of all cells of the typhous product, still incline me to rank the generality of these forms along with cicatrices."

It is not our desire to undervalue the patient and meritorious labours of microscopists such as Dr. Günsburg; we cannot help, however, reminding those ardent spirits who are not indisposed to consider themselves "lights of the age," because they are in the habit of amusing themselves with this now fashionable instrument, that the microscope alone no more constitutes a microscopist than the telescope does an astronomer. We would advise such persons to reflect how much of astronomy is mere matter of assisted sight, and how much is composed of laws worked out by the understanding. Too many are in the habit of confounding the relative smallness of objects with their absolute simplicity, an error which we are happy to find well exposed by a writer we have already quoted.

"At the very best, the microscope teaches only the coarse outlines of the forms of the apparatus in which the processes of the living body are carried on; and the apparatus which we thus see, are not the parts by the mutual influences of which the processes are affected. These processes depend, without doubt, upon the mutual relations of the elementary particles, the atoms of the body; and the distance by which we are, by the microscope, brought nearer to these, is, probably, in comparison with the distance at which they are still removed from our view, infinitely small. The best knowledge, therefore, which the microscope can afford, may be compared to the kind of acquaintance with chemical science which a man may acquire from an examination of the apparatus in a laboratory. In thinking otherwise, men confound, as they are very apt to do, relative smallness with absolute simplicity, whereas, in truth, there is no reason to believe that the processes affected in a single organic cell, are, in their essential nature, less complex or less obscure than those which go on in a large mass or in a whole organ, and which are often only the same processes on a large scale."—l. c. p. 491.

2. M. DONNE, in the introduction to his *Cours de Microscopie des Fluides de l'Economie*, (See Dublin Medical Journal, vol. xxvi. p. 316), announced his intention of bringing out an Atlas to illustrate it, in which, "profiting by the wonderful invention of the daguerreotype, objects would be represented with a strict accuracy, hitherto unknown, by means of photo-

graphy." The first half of this expected Atlas, now before us, fully realizes his promise. We have not seen anything of the kind at all approaching in beauty, and apparent accuracy, the elegantly executed figures it contains. This novel application of the photographic process is attended with, as he says, "the great advantage of presenting the objects exactly as they lie scattered over the field of the microscope, instead of having certain specimens selected for us, as is generally the case. There is not only great confusion produced by assembling together a crowd of different objects, and placing them side by side, in one plate, but the objects so placed actually lose their microscopic physiognomy."

The difficulties attending a first essay in such a proceeding must indeed have been great. We can testify, however, that M. Donné's success has not been the less, although he is himself not quite satisfied, on account of certain imperfections which he hopes in future to be able to avoid.

The first and second fasciculi of the Atlas contain ten plates, each with four figures, in which are represented different views of the microscopic appearances of the blood, in man and some of the inferior animals, both in its natural state and as modified by the action of water and acetic acid; the circulation in the tongue of the frog; mucous globules; epidermic cellules; mucus in different forms and of different kinds; the vibratile ciliæ of moles, and of the frog; epithelium of the nasal fossæ; normal and altered pus globules, and the pus of chancre. M. Donné at first thought of transferring the figures formed by the daguerreotype microscope to paper, by having the original silver plates engraved, after the plan of M. Fizeau; but as he had not a perfect reliance on this plan, and as he wished to preserve the original figures as vouchers for his accuracy, and to assist him in his lectures, he resolved on having them copied and engraved on steel, which has been accordingly done by artists distinguished for their accuracy and ingenuity.

The descriptive and physiological Anatomy of the Brain, Spinal Cord, and Ganglions, and of their Coverings. Adapted for the Use of Students. By ROBERT BENTLEY TODD, M.D., F.R.S., Fellow of the College of Physicians, Physician to King's College Hospital, and Professor of Physiology in King's College, London. London, 1845, pp. 284, small 8vo.

WE have no hesitation in pronouncing this to be the best descriptive anatomy of the human cerebro-spinal axis in the

English language. Divested of the heavy style which renders Cloquet's *Anatomy* so insupportably tiresome, it combines all that is really valuable in the recent French anatomical writings, with an accurate detail of the microscopic structure of the nervous centres.

Whilst, however, we thus freely award to our author the credit to which he is entitled, it is not our intention to depreciate the labours of many British writers who have preceded him in the same difficult undertaking. The work of Mr. Solly, for example, based upon comparative anatomy, and written in a truly philosophical spirit, must still continue highly attractive, and will amply repay those who consult it; and we might make honourable mention of other names also, did space permit.

The merit of the volume before us lies not so much in its originality, as in the lucid and accurate manner in which the author has put together all that is known on the subject of which he writes: those who have read Cruveilhier's book will be able to trace that learned anatomist's descriptions throughout many parts of the work; and the writings of Reil, Breschet, Magendie, and others, may also be frequently recognised.

The arrangement adopted by Dr. Todd is admirably calculated to assist the anatomical student in his studies. The book commences with a concise description of the elements of the nervous system, together with an elaborate account of the membranes which invest the brain and spinal marrow.

In treating of the arachnoid, our author dwells at length upon the cerebro-spinal fluid, a subject which has hitherto received but little attention from English writers, although long since accurately described by Magendie and others; his remarks on the changes in quantity which this liquor undergoes, in certain conditions of the nervous centres, deserve the serious attention of pathologists, who are too much disposed to consider all serous effusions within the meninges as the result of inflammatory action.

In the section which makes mention of the glandulæ Pacchionii, some views are put forward which, for their novelty, we transcribe.

“Are the Pacchionian bodies natural or morbid structures? The great frequency with which these bodies are met with in the various situations above-mentioned, has induced many, even in the present day, to regard them as normal structures, the physiological office of which is as yet unknown. But there are many facts which militate against such a conclusion. In the first place, it may be

observed, that Pacchionian bodies never occur in the earliest periods of life. In the course of a long experience in anatomical investigations, I have never seen them at a period antecedent to six years. It must be further remarked, that even at those periods of life when the Pacchionian bodies are found in greatest numbers, cases frequently occur in which no traces of them can be found; there is likewise the greatest variety as to their number and size, in different individuals of the same age.

"It has always occurred to me to find them most numerous in cases where I had reason to know that the brain had been subject to frequent excitement during life. In persons addicted to the excessive use of spirituous liquors, in those of irritable temperament, and who had frequently been a prey to violent and exciting passions, they are almost uniformly highly developed.

"The Pacchionian bodies are peculiar to the human subject: nothing similar to them has been found in any of the inferior classes of animals.

"In reference, then, to the question, what is the nature of these bodies? I have no difficulty in stating my opinion, that the evidence greatly preponderates in favour of their morbid origin; that they are the product of a chronic very gradual irritation, due to more or less frequent functional excitement of the brain itself. It is not unlikely that the friction to which the opposed surfaces of the arachnoid are continually subjected in the movements of the brain, especially when they are of a more rapid and violent kind, as under states of cerebral excitement, may contribute to the development of many of the appearances connected with these bodies. The opaque spots, which are of such frequent occurrence upon the surface of the heart, may be quoted as an example of a morbid change very commonly met with, and resulting, probably, from the friction against each other of opposed serous substances. Were the Pacchionian bodies normal structures, they would not be so frequently absent from brains which afforded every other indication of being in a healthy state; nor should we find opacity of the arachnoid (a decidedly unhealthy condition) so commonly co-existent with the full development of them. Again, were they a necessary part of the healthy organism, we might expect to find them more constant as regards size, number, and the extent of surface over which they were placed."

The second chapter contains an exposition of the microscopic characters of the white and grey nervous matter: in it, the views of Valentin, Henle, and Schwann are fully propounded, and the woodcuts which illustrate the author's descriptions are beautifully executed. This section will be found particularly worthy of attentive perusal, because it relates to a subject hitherto but little known in these countries, and of the deepest interest as regards the physiology of the brain.

In discussing the nature of the connexion between the

roots of the spinal nerves and the cord, Dr. Todd makes the following observations :

“ One of the most important problems in the anatomy of the spinal cord is to determine the precise relation which the roots of the nerves bear to the columns of the cord and to the grey matter. As far as coarse dissection enables me to determine, I would venture to make the following statement, founded upon my own observations.

“ The anterior roots derive their fibres wholly from the antero-lateral columns. Of these fibres, it is *probable* that some are continuous with the longitudinal or oblique fibres of the cord, and that others pass into the grey matter. This, however, is very difficult, if it be possible, of any demonstration, by the ordinary modes of dissection. The posterior roots adhere to the posterior part of the antero-lateral columns, and derive their fibres chiefly from that source. I have never, in numerous dissections, seen anything to induce me to believe that the posterior columns contribute to the formation of the posterior roots. If they do, it must be by few and extremely delicate fibres. It seems highly probable (although the demonstration of the fact is attended with great difficulty) that the fibres of the posterior roots have a similar disposition to that described for the anterior, and that some pass into the posterior horn of the grey matter, and others are continuous with the longitudinal fibres.”

Dr. Todd next proceeds to give Mr. Grainger's description of this connexion.

“ After repeated examinations (says Mr. Grainger), I satisfied myself that each root was connected both with the external fibrous part of the cord, and the internal grey substance. The following is what appears to me to be the structure. After the two roots have perforated the theca vertebralis, and so reached the surface of the cord, it is well known that their fibres begin to separate from each other: of these fibres some are lost in the white substance, whilst others, entering more deeply into the lateral furrows, are found to continue their course nearly at a right angle with the spinal cord itself, as far as the grey substance, in which they are lost.”

Farther on Dr. Todd resumes :

“ The question respecting the precise relation of the roots of the nerves to the cord, is one of those in which physiology, in a certain sense, takes the lead of anatomy. Experiment has made it certain that, while the spinal cord serves as a propagator of nervous power to and from the brain, as in the ordinary sensations and voluntary movements of the trunk and extremities, it is likewise capable of acting as an independent nervous centre, and that movements of a very definite character may be produced in parts con-

nected with it, even after all communication between it and the brain has been cut off. And it has been supposed by one of the most zealous labourers in this department of physiology, that a distinct series of nervous fibres is directed to each class of actions, those, namely, of sensation and volition, and those which are independent of the brain. Mr. Grainger was the first who offered a distinct solution to the anatomical problem which arose out of this hypothesis. Probable as his explanation appears to be, a candid review of the observations which have been hitherto made obliges me to state my opinion that the question is still *sub judice*, and that further research is necessary to prove unequivocally that, of the fibres composing the roots of the nerves, some pass upwards and enter the brain, and others do not pass beyond the grey matter of the spinal cord. And this inquiry demands more than ordinary care, for the mind of an observer would be easily biassed by so attractive an hypothesis as that above referred to. It is not from physiological experiment, nor from coarse dissections, that we can expect a solution of this difficult but most important problem. We must look to the microscopical analysis of the anatomical elements of the spinal cord, as well as of the encephalon, for the most exact results upon all questions connected with the working of these centres."

The reader will perceive that these latter paragraphs have reference to the excito-motary properties of the nervous system now so universally admitted by physiologists.

The caution here evinced by our author affords a striking proof of the candour with which his book is written. After having ourselves devoted much time to the dissection of the spinal cord, we are compelled to admit, with him, the extreme difficulty of the question under discussion, and to express our belief that the *anatomical* explanation of the beautiful discoveries in physiology, made by our distinguished countryman, Marshall Hall, is still a desideratum.

We may here remark, that, inasmuch as many of the *cerebral* nerves (for example, the second, third, and seventh pairs) possess undeniably excito-motary properties, it must be premature, in the present state of our physiological knowledge, to assume that the spinal cord is the *only* part of the cerebro-spinal axis from which reflex movements can originate; and if this be so, we are furnished with additional evidence that the attempts hitherto made to account for the reflex phenomena, by the possibility of tracing some of the fibres of the spinal nerves to the grey substance of the cord, have been unsatisfactory.

Our limits will not permit us to lay more extended extracts from Dr. Todd's work before our readers, but this can

scarcely be a subject for regret, since the real merits of a descriptive anatomy can only be duly appreciated in the dissecting-room. We close this brief notice by sincerely recommending the book to the advanced anatomical student, feeling a thorough conviction on our own minds, that in no other treatise will he find an equally satisfactory exposition of the anatomy of the brain and spinal cord.

Lectures on natural and difficult Parturition. By EDWARD WILLIAM MURPHY, A. M., M. D., Professor of Midwifery, University College, London; Obstetric Physician, University College Hospital, and formerly Assistant Physician to the Dublin Lying-in Hospital. London, 1845, pp. 263.

WE have to congratulate our fellow-countryman on the volume of lectures now before us. "They have been published in this form," the writer states, "in order that his pupils, recalling to their minds the lessons they have received, may be enabled to examine the principles and precepts delivered to them with more care and attention than could be done from the evanescent impressions of an oral lecture;" from which examination we promise them much satisfaction and advantage. Dr. Murphy has had considerable opportunities afforded him for obtaining sound practical information, none of which his inquiring mind has allowed to pass unimproved, some of the fruits whereof we reaped here ere he was translated to his present honourable position; and, though there are one or two points we cannot pass over without unapproving comment, still we gladly recommend this volume as an evidence of his continued industry and untiring zeal in endeavouring to develop and carry out correct views of practice. The lectures are thirteen in number, the first two of which are devoted to a consideration of the obstetric anatomy of the pelvis, its measurements, as also those of the foetal head; to which is added an interesting table of measurements of eighteen pelves not diseased, shewing the variety in their proportions. Next follows a description of the varieties in the pelvis, from the simplest deviation from the natural standard, to the extreme deformity, the result of disease, with the different modes of measuring such. Dr. Murphy then proceeds to give a delineation of the mechanism of parturition, with the management of natural labour, which occupies the next four lectures.

This may be considered the first half of the volume; the second is devoted to the consideration of difficult labours, their

causes, and modes of treatment, with a description of the obstetric operations best adapted for their relief. The thirteenth lecture contains a detailed history of the different instruments; and the volume winds up with a summary of principles and rules of art, arranged as aphorisms, which will be found to contain a great deal of condensed valuable information. We shall not bind ourselves to go through these lectures regularly in detail, but shall be content to make a running comment on such matters as may strike us as worthy of notice.

Dr. Murphy's description of the pelvis, but more especially what is technically designated its cavity, planes, &c., is very accurately given, and will be found to aid much in explaining the passage of the fœtal head, to which he seems to have paid considerable attention. Speaking of its upper portion, and the effect that deviations in its proportions, independent of those necessarily the result of disease, may have on the impregnated uterus, he says:

“It (the pelvis) may be too wide or too narrow; if the ilia be too open they give no support to the uterus when it enters the abdomen; the natural obliquity of the uterus is, therefore, greatly increased; it falls too much to one side, and so may remain until labour begins. Then the action of the uterus becomes irregular and inefficient, and labour is delayed from this cause alone; if they are very upright, the uterus rises into the abdomen too much in the middle line of the body; and if the brim be too wide, the weight of the uterus presses down on the soft parts beneath it; it may descend even into the vagina and give rise to the disease called prolapsus uteri: if too narrow, the uterus has not room to pass between the pubes and the promontory of the sacrum, irritation takes place, premature action of the muscular fibres is induced, and miscarriage is the result.”

Instead of directing attention to the measurements of the brim and outlet of the pelvis, he prefers considering the whole passage as consisting of a series of planes, taken from above downwards, having different aspects and measurements. The first of these is above the brim posteriorly, but meets it anteriorly at the symphysis pubis; it is, therefore, an inclined plane, forming an acute angle with the plane of the brim, which constitutes the second; and the third is the plane of the cavity, one most generally omitted, but which he deems the most important of the three: the outlet he does not consider as a plane. For a description of them, their measurements, &c., we refer our readers to the lecture itself, which, with the succeeding one on varieties and deformities of the pelvis, will be perused with much interest.

Dr. Murphy, having given a table of divisions of labours, as adopted by various authors, selects for his grand division Denman's, as "being most generally known, quite as distinct, and in many respects more simple and practical, than most others." He adopts also Denman's arrangement into stages, excepting that of including within the first the rupture of the membranes and discharge of the liquor amnii; this clause, as leading to confusion, he, and we think with reason, rejects. As his mode of explaining the mechanism of the dilatation of the os uteri, and the subsequent expulsion of the uterine contents, differs from that of Wigand, Dewees, Churchill, and others, we shall not offer any apology for giving it here in detail:—

"The means," he says, "by which the uterus is opened, are not the same as that by which the child is forced through the pelvis; and again, the manner in which the placenta is separated and expelled, is different from either."

The following is his description of the arrangement of the muscular fibres, with their *modus operandi*:—

"The fibres on the external surface form two broad, fan-shaped muscular layers, spreading from the round ligaments over the fundus uteri. On the internal surface there are three distinct sets of fibres: two of these surround the Fallopian tubes in a concentric arrangement; the third set pass circularly round the body of the uterus, and the outer fibres of the two former layers gradually pass into and intermix with those of the latter; the mass of fibres lying between the external and the internal layers have no determinate direction, but may be supposed to give increased power to those we have described. Such, then, is the arrangement of the muscles or muscle of the uterus, so far as it has been demonstrated. Let us now consider their action. The external muscular layer slowly contracts for some time before labour has actually commenced, and draws the uterus gradually towards the pelvis. By this means also, the fundus is maintained in its proper direction, and prevented from inclining too much to either side. This gradual contraction is unaccompanied by pain, and therefore is not taken notice of; but its effect in altering the size of the abdomen, and making it less prominent, has always been observed and noted as a premonitory sign of labour. These fibres serve a useful purpose, when the dilatation of the os uteri commences—the fundus being thus supported, the fibres on the internal surface contract more effectually. The action of the *internal sets of fibres* requires a more careful examination, inasmuch as different, and, it appears to me, incorrect explanations have been given, both of the arrangements of these fibres, and of the manner in which they contract. We shall, therefore, first consider the effect produced by the contractions of the different sets of fibres,

and secondly, the order in which these contractions take place. *When the fibres surrounding the Fallopian tubes contract together*, the fundus uteri is equally diminished on all sides, and their combined effect, conveyed through the medium of the liquor amni, is precisely the same on the mouth of the uterus as if the fibres passed down vertically and acted directly upon it. *When the circular fibres of the body and cervix contract*, their tendency is to render the uterus more and more cylindrical, according to the degree of their contraction, at the same time that they close in the cervix. Again, if the uterus were emptied of its contents, the simultaneous action of all these different sets of fibres would be to draw the parietes equally towards the centre of the cavity. But when the uterus is gravid, and makes an effort to expel the foetus, they cannot all contract in this manner. *The fundal muscles* are those which chiefly effect the dilatation of the os uteri, and the expulsion of the child; the fibres of the body and the cervix remaining comparatively passive. It has already been explained that their united action is in the direction of the os uteri; but there is still a necessity for a means by which the result of that action should be perfectly conveyed to it. This is accomplished by the fluid enclosed within the amnium, which acts with a distending power upon the os uteri, exactly equal to the combined force of these muscles. The muscular bands described by Sir C. Bell must also have the effect of expanding the os uteri by drawing it upwards. The circular fibres of the body and cervix resist the efforts of the fundus to distend them, and the force of their resistance is also communicated to the contained fluid. This force, is, therefore, as it were, reflected upon the os uteri, so that the whole uterus might be said to act as one muscle in dilating the os mouth."

Dr. Murphy denies the action of a sphincter to the os uteri, as also the possession of circular muscular fibres, on the ground of the existence of the latter not having been proved, and also the manner of dilatation of this part being gradual, yielding slowly to the power described, instead of giving way suddenly like the relaxation of a sphincter muscle.

"It seems more probable," he says, "that the firm, highly-condensed tissue that forms the cervix of the virgin uterus, still retains, in its altered state, many of its original characters; that this tissue, although more unfolded, is still sufficiently compact and elastic to offer a great degree of resistance, and that its dilatation is effected by the incessantly repeated efforts of the uterus slowly overcoming and expanding it; sudden dilatations being only to be looked upon as exceptions to the general rule."

The order in which uterine contractions take place Dr. Murphy declares to be from above downwards, as evidenced on the introduction of the hand into the uterus after delivery

to remove a retained placenta. Here is the great point of dissent from Wigand's explanation, who declares that the contractions begin in the os uteri, and pass thence to the fundus, deeming every pain commencing in the fundus to be abnormal and arising from some derangement of uterine action or sympathetic with some irritation not immediately connected with the uterus. Dr. Murphy very ingeniously turns Wigand's reasoning back upon himself.

"Now if we desired an additional evidence to prove that the fundus was the first part of the uterus to contract, and not the os uteri, we could not have a stronger proof than that advanced by Wigand, to support a contrary opinion, viz., the head, when the contractions commence, getting even out of reach of the fingers, whilst the os uteri is filled with the bladder of membranes. The immediate effect of contraction commencing at the fundus would be to compress the liquor amnii, which of necessity forces its way before the head, on to the mouth of the uterus. The fluid in this position reacts against the head with the same power that it is compressed, and therefore pushes it up, until the increasing contraction of the fundus forces the head down again."

The correctness of Dewee's explanation also, on the ground of the longitudinal and circular fibres acting as antagonist forces, and thus by their conjoint contraction overcoming the resistance of the fibres which surround the os uteri, causing it to become gradually weakened, and so, after a struggle of greater or less severity and duration to yield, Dr. Murphy denies, inasmuch as there is not sufficient evidence that the arrangement of the fibres of the uterus into longitudinal and circular, enables them to act as antagonist muscles—or, supposing such to be the case, the effect of this would be very likely to operate injuriously, causing a premature rupture of the membranes, and so adding to instead of diminishing the difficulties in the way of dilatation. Without expressing an opinion on this subject, we refer our readers to the work itself, for a more full exposition of his reasoning, and shall proceed to notice some of the remaining lectures, which are principally devoted to practical subjects. The fourth, fifth, and sixth are occupied with the consideration of the second and third stages of labour, and the management and treatment of natural labour. Dr. Murphy having described the transit of the head through the cavity of the pelvis, illustrating most accurately its progressive advance, dwells at some length on the different positions of the head and face presentations, as arranged by authors, laying down the means of accurately diagnosing each. He insists on the necessity for correct information on this point, as it too often

happens that the practitioner is satisfied if he can distinguish the head, without caring much about its position, and hence decides upon the necessity for interference, not by his knowledge of the cause of the difficulty, but according to the length of time this stage may occupy. This is sound sense; and though we are not prepared to admit the facility of rectifying faulty positions that Dr. Murphy would seem to lead us to expect, yet, as we know that some do admit of interference being practised with safety and comparative ease, we quite agree with our author in the necessity for making ourselves acquainted, as accurately as possible, with the exact relation of the foetal head to the different parts of the pelvis *in transitu*, as constituting a most important aid in guiding us to the mode, if not the time, of interference. The lectures on the management of natural labours abound with excellent practical instruction and advice, evincing as well great kindness of heart, as an intimate acquaintance with human nature. Having described the mode of making the vaginal examination, and the objects thereof, he delivers a wholesome caution against any premature attempt to interfere with the position of the head, as has been advised by some, which, at the risk of being considered prolix, we shall give in his own words.

“The head, if presenting, may also be felt; but the position cannot be determined until the dilatation is more increased, and the head fully in the brim. The small portion of the head which occupies the slightly dilated os uteri is not sufficient to determine anything about it; and if you pass the finger within the os uteri, for the purpose of tracing the sutures and fontanelle, you will only succeed in exciting a great deal of unnecessary irritation in its tissue; neither can you define the characters of the position, through the os uteri, with sufficient accuracy to place any dependence on the evidence they give.”

And again :

“Therefore we would question altogether the propriety of meddling with the position thus early, because it seems to us far more probable that a little awkward manipulation would produce this derangement, than that it would take place if the position were not interfered with. In fact, Nature would be less likely to blunder than you would.”

With reference to the use of the pillow placed between the knees of the patient during the second stage of labour, Dr. Murphy is quite of opinion with Dr. Collins that it is both useless and inconvenient, and that far more comfort will be secured to the patient, and advantage gained, by the

nursetender gently elevating the knee with her hand instead. We quite agree with him in his selection of the right hand for the support of the perinæum, though it is opposed to the mode practised by Drs. Rigby, Ramsbotham, Churchill, and others.

“ The plan which I have found the most useful and convenient to adopt at this period of labour is the following:—to sit behind the patient as she lies upon her left side, the back of the chair being towards the head of the bed, and, while the head of the child is passing through the pelvic cavity, to press moderately, with the left hand, over the hip of the patient. Having the left hand so employed, the right can be used to support the perinæum. A single fold of a fine napkin should be placed along the edge of the perinæum, and the right hand so applied, that the fold of skin between the finger and thumb should correspond to this, the fore-finger and thumb passing on either side of the vulva, and the palm of the hand, resting against a thicker fold of the napkin, applied to the posterior part of the perinæum. By this means you have full power to make any counter-pressure with the palm of the hand, which may be necessary, and the fingers being quite close to the edge of the perinæum and vulva, you can easily trace the margin of the perinæum, and feel the head if necessary. Thus one hand fulfils the office generally assigned to two, and enables you to grasp with the left hand the pelvis, to prevent the patient moving away too suddenly when severe pain comes on. If, the head being expelled, this be no longer necessary, you can employ the same hand to support the uterus during its contraction in expelling the body of the child. Besides these advantages, it is certainly less fatiguing.”

These may, to some, seem matters of minor importance; but addressed, as these lectures are, to students, they are by no means undeserving of consideration.

Difficult labours Dr. Murphy subdivides into tedious labour, or that in which this process is merely prolonged beyond the average period without being at any time unusually severe; and laborious labour, or that in which without reference to time, there is a powerful struggle carried on by the uterus to overcome some unusual resistance. The causes producing the former are most frequently met with in the first stage of labour, while those that give rise to the latter generally occur in the second. “ Tedious labour may depend either upon inefficient uterine action, or rigidity of the passages.” We shall not dwell upon that form having for its exciting cause such conditions as eventuate in an inefficient action of the uterus, further than to state, that they are well and faithfully detailed, with their appropriate modes of relief. Were we to particularize, we should feel disposed to allude to

the description given of the effect of mental depression or despondency: we shall not do so, however, but proceed to notice one of the sources of tedious labour included under the second head, viz., rigidity of the os and cervix uteri. This is dependent on many causes, as irritation, inflammation, or simple pressure; and may exist from the most trifling degree to an extent or amount, the effects of which, if not duly combated, may be a complete separation of the os. But the head may rest on the pubic side of the pelvis in such a manner as to compress the anterior lip of the os uteri, and prevent its dilatation, thus forming a band before it, which, when long pressed upon, becomes swollen, tender, and rigid. Dr. Murphy, very properly we think, is opposed to the practice of making efforts to return this, and retain it above the head, though such is sanctioned by some high names.

“My own experience,” he says, “however, confirms that of Dr. Collins, and is opposed to this practice; the opportunities I have had of putting it to the test, have taught me that success is by no means so easy as it is described to be; that the anterior lip may be pressed back again and again, and yet return to the same situation as before; that it is difficult to get the head to pass the introduced fingers; and that these attempts, when unsuccessful, only increase the swelling and inflammation of the soft parts.”

And further:

“It appears to me, therefore, that this kind of manipulation may be employed, and would be serviceable, if the fingers were placed against the head of the child, in order to relieve the constriction of the anterior lip, and to direct the head more towards the pelvic cavity. I am still, however, disposed to object to the practice of artificial dilatation of the mouth of the uterus for the former purpose.”

We confess, and we do so with regret, that we are at a complete loss to reconcile with this specimen of sound and judicious practice, the treatment, if not approved of, at least, certainly not discountenanced, as laid down a page or two further on, in the conclusion of this lecture, in cases where

“The os uteri is like cartilage, and will not yield to the most powerful and constant action of the uterus; the membranes are usually broken, and the waters discharged early in this stage, and, therefore, the uterine action is increased to its full extent. Inflammation is the almost certain consequence of the struggle that ensues; you have, therefore, complications of the worst description to contend against. The issue of a case of this kind is the spasmodic and irregular contraction of the uterus about the

body of the child, and frequently its death, before the uterus is opened to any extent. It, therefore, becomes a case for delivery by perforation. But there are some instances in which the dilation is brought to a successful termination by extreme care in the management of the case."

Now here follows what we are compelled to find fault with :

"If these means fail, that is the warm bath, emollient enemata, tartarised antimony, depletion, general or local, &c., it becomes a question whether we should wait for the death of the child, in order to remove it by the crochet, or incise the unyielding os uteri. The former practice involves a sacrifice of life, but generally secures the mother's from the injurious effects which may follow. The latter may be the means of preserving the child; but if the incision lead to a laceration of the uterus, the mother is at once placed in the most imminent danger of her life. The fear of such a consequence (and, we would add, a salutary fear it is), it appears to me, has prevented any attempt being made thus to cut through this gordian knot of difficult labour in its first stage; but whether this, like other operations, is only surrounded by chimeras of the imagination, which some bold spirit will dissipate, remains yet to be proved. Incision has been performed without accident; the same may happen again; and I confess, in a case such as I have described to you, I should be more disposed to adopt the shorter course, in the hope of saving the child, than to wait until its death enabled me to remove it. This, however, is but an individual opinion, and needs support."

We had endeavoured to force ourselves to believe that this mode of treatment was mentioned merely as though it were deemed necessary in a lecture to state to pupils all that had been recommended and done, and to caution them against such; but we feel ourselves reluctantly compelled to admit that the concluding passages, if they mean anything, go the full length of sanctioning such practice. We cannot but think that Dr. Murphy must, to a certain extent, have drawn upon his imagination for a case to warrant this interference. As far as we can make out, no such case has occurred in the history of the Dublin Lying-in Hospital—of this we cannot, however, at present speak with certainty: none such is to be found in Dr. Collins' valuable report of his term of mastership in this institution; and if we may judge from the tenor of his remarks on labour—tedious labour—we feel inclined to conclude that he will be of our way of thinking on this subject. However, we repeat we cannot but believe that our author's imagination must have supplied the case. This

approaches nearly the too enterprising spirit of Continental accoucheurs, who are very ready to put forth the number of instances in which this and other operations having reference to various objects have been had recourse to, without giving, in juxta-position, a faithful detail of the result as affecting mother and child (see tables on laborious labours, p. 145), thus affording no sufficient data from which to draw conclusions, or if any, certainly to the young and inexperienced, that of a most tempting and, consequently, most dangerous description. We pass on from this subject, which a sense of duty would not suffer us to leave unnoticed, to a consideration of the lectures on laborious labours; and here we again meet with sound doctrine, such as we should have expected from the estimate we had formed of our author. Speaking of the use of pelvimeters, he says:

“You must not, therefore, place implicit confidence in the accuracy of the measurement that you make of the pelvis, and at once proceed to operate, because it is, or you think it is, within the space through which the head may pass; you might be altogether deceived; and every experienced practitioner knows how often he is deceived in the estimate he forms of the space in the pelvis, although the utmost care may be taken to determine it. Do not, therefore, trust to pelvimeters, however ingeniously contrived; rather let time and close attention to the symptoms which present themselves decide your practice. The simplest, and, we might add, the most efficient pelvimeter, is the hand of the practitioner.”

The distinction between arrest and impaction of the foetal head is well drawn, and the propriety of, or necessity for instrumental interference, is also ably discussed. Dr. Murphy, satisfied to base his reasoning on facts instead of opinions, has come to sound conclusions on this point. No meddling midwifery will be found encouraged under this head, if we except a slight leaning which he seems to have to the long forceps, which he advises as a mode of delivery in the ovate pelvis from rickets, where the conjugate measurement of the brim is diminished; for which purpose he prefers Dr. Radford's forceps, consisting of blades of unequal length, the longer or facial blade to be applied over the face, the shorter or occipital, over the occiput. Into this *quæstio vexata* we shall not follow him. The most eminent practitioners of this country, we believe of the past and we know of the present day, are opposed to the use of the long forceps. Even the late Dr. Hamilton, from many of whose points of practice we should feel ourselves called upon to express our dissent, as we are informed by Dr. Lee, for some time before his

death never used any but the long forceps; still it appeared on further inquiry, that in no case did he ever use the long forceps until an ear could be felt. Even admitting for a moment the correctness of the practice, it is an awful implement to place in the hand of the young and inexperienced.

We have now brought to a close our observations on Dr. Murphy's Lectures; we feel pleasure in saying we have derived much gratification from the perusal of them, and, with the exception of one or two points, have found much to admire. They bear strong testimony in favour of his zeal and industry, and contain a large amount of sound practical matter. The book is very neatly got up, the illustrations are most appropriate and well executed; and from a careful perusal of it, we feel satisfied that not the student merely, but also the practitioner, may derive much valuable information, conveyed in a pleasing and unassuming style.

1. *De la Puberté et de l'Age critique chez la Femme*, &c. Par M. A. RACIBORSKI, M. D.

On Puberty, and the critical Age of Woman, &c. By M. A. RACIBORSKI, M. D.

2. *Mémoires pour servir à l'Etude des Maladies des Ovaries*. Par ACHILLE CHEREAU, M. D., &c.

Memoirs illustrative of the Diseases of the Ovaries. By ACHILLE CHEREAU, M. D., &c.

THE function of the uterus in the three great physiological conditions of the generative system, i. e., menstruation, conception and nutrition of the foetus, and parturition, is well defined and accurately known. We have demonstrative evidence that the menstrual fluid is secreted on its inner surface alone, and that the nutrition of the foetus, and its expulsion at maturity, are essentially effected by the uterus. It is not quite settled whether the uterus is the locality of conception, or whether it is merely a receptacle for the impregnated ovum.

But much greater doubt hangs over the nature and extent of the ovarian functions, at least of some of them. That these organs furnish the ova for impregnation there is no question; but whether the ova are retained in the ovary until vivified in the uterus, or whether they are occasionally, or regularly, or periodically discharged, independent of the influence of the male, as also the nature and extent of the influence of the ovaries upon menstruation, are questions as yet undetermined.

Considerable interest has lately been excited by investigations on the subject, and we have thought it right to lay

before our readers a notice of some of the points treated in the works whose titles we have quoted, and in others.

Once it had been established that menstruation was a uterine act, it seemed unnecessary to seek for any further local organic influence. Thus we find it attributed to uterine plethora, to general plethora, to a supposed necessity for evacuating the blood which, during pregnancy, supplies nourishment to the fœtus, to some supposed preparation of the womb for conception, and also to the necessity of depletion for the relief of sexual desire. Upon the whole, we can have little hesitation in pronouncing these explanations fabulous.

But no matter what theory was adopted, the uterus was generally considered as not only the seat, but the sole organ concerned in menstruation. Here and there we meet with a writer (Kerckring, Freind, Home, Cullen, Cabanis, &c. for example) who imagined the ovaries had some influence, but they form a small minority.

In 1797, Mr. Cruikshank published an observation which may be looked upon as the first step in the path which has been so ably followed of late years.

In 1821, Dr. Power published a very able little work on the female economy, containing an essay on menstruation, in which he endeavours to shew that "a woman menstruates because she does not conceive." His opinions were based upon such facts as were then known, and upon analogies, and he, in a great measure, anticipated the results of more recent observation. He "conceives that the discharge is an effect of the actions of the uterus, preparatory to its reception of the matured ovum, and which are disappointed in consequence of the stimulus of impregnation not being applied."—p. 16. Again, he thus explains the periodical occurrence of the catamenia :

"The generative powers of the human female are not limited to the production of a single ovum ; on the contrary, a number may always be detected in the ovaria under different states of progress. The loss or disappointment of one matured ovum, is followed by the maturation of another ; this in its turn becomes disappointed, and then an indefinite series is carried on throughout the period of generative capacity. The interval between the maturity of two successive ova, will be the interval between two successive periods of menstruation ; and as this usually occupies a lunar month, it is reasonable to infer, that such a time is required for the preparation or maturity of a second ovum, after the disappointment of a preceding one."—p. 25.

Dr. Power, therefore, has the credit of taking the next step in the modern series of observations and inquiries on this subject ; and he has been followed by Gridwood, Lee,

Ritchie, &c., in this country, and by Pouchet, Negrier, Gendrin, Bischoff, Raciborski, Chereau, and others on the Continent.

For the purpose of laying before our readers a fair, though brief statement of the question, we shall first inquire into the evidence we possess of the ovaries having any thing at all to do with menstruation.

1st. The period at which menstruation is established is called the period of puberty: the generative system, having then arrived at its full development, enters upon its stage of activity; the female is then capable of conception. Now, if we examine the structure of the ovaries before and after the first menstruation we shall find a remarkable coincidence of development, if not more.

Sir C. Bell observes:

“In very young girls the substance of the ovarium is whitish and very soft, the surrounding membrane is thick, and the round corpuscles (Graafian vesicles) scarcely discernible, and no irregularities, nor any of those bodies called corpora lutea, are to be seen on the surface. But as the girl advances in years, the little vesicles begin to appear, and when about ten years of age, or just before menstruation, the ovarium is full of ova of various sizes, and some of them matured and forming an eminence upon the surface.”—*Anat.* vol. iii. p. 425.

M. Negrier has remarked:

“Towards ten or twelve years some of the vesicles enlarge, the membranes cease to be transparent in consequence of the interposition of a grey pulpy matter. At the same time the vesicles increase in volume more rapidly than the little cases in which they are contained, and consequently they are irregularly compressed. The grey pulp of the vesicles gradually becomes of a yellow colour. It is then that the first signs of puberty show themselves.”

Mr. Gridwood observes:

“That the ovary of a female who has never menstruated is a soft, pulpy mass, oval in shape, with a regularly defined outline, and possesses a smooth, polished, glistening surface; small vesicular ovules exist in great numbers in the stroma or parenchyma of the ovary; that they may be seen there in different stages of development; that some, far in advance of others, are so increased in size, that even in the ovary of a six months’ fetus they are evident without the use of a lens. As the female approaches puberty, some one of the ovules become more and more developed, approaches the surface, and, as in the instance I am now going to relate, it occasions a transparency of some degree over this small Graafian vesicle.”—*Lancet*, March, 1843.

M. Raciborski states, that

"The ovaries are very small during the first years of life, but increase considerably in volume, and become heavier and more elastic, as puberty approaches. But it is especially the Graafian follicles which undergo important alterations. Their number increases so much that we have counted from thirty-five to forty in a single ovary. They become, at the same time, much larger, generally about 7·8 millimetres in diameter, and more superficial. In many cases they are so superficial as to be perfectly perceptible through the tunic of the ovary, which, at the same time, has become thin in such places. Add to these changes, that the proportion of albumen in the fluid contained in the vesicles has increased." —p. 92.

Besides, according to Dr. Ritchie,

"During the period of child-bearing again (i. e. after menstruation has commenced), when, of course, the ovary is the most essential organ of the female economy, and each of its follicles has become a complex aggregate of cells, the coats of such follicles acquire a firmness of contexture which effectually preserves their important contents from being wasted on every occasion of excitement to which the ovaries at this period of life may be exposed."—*Med. Gaz.* vol. i. p. 325, 1845.

Here, then, we find menstruation, with the other signs of puberty, and remarkable changes in the ovary occurring together for the first time; and if we find a similar concurrence in periodical changes subsequently, we can scarcely regard it as a mere coincidence.

2nd. We may reasonably expect to obtain further evidence from the history of those cases in which the ovaries are completely absent. Many such are on record; but we shall content ourselves with adducing one or two. Mr. Charles Pear relates a case in the transactions of the Royal Society of London, for 1805:

"Having ceased to grow at ten years of age, she was in stature not more than four feet six inches in height. The width across the shoulders was as much as fourteen inches; but her pelvis measured only nine inches from the ossa ilia to the sacrum. Her breasts and nipples were enlarged more than in the male subject. She never menstruated; there was no appearance of hair on the pubes, nor were there any indications of puberty in mind or body at twenty-nine years of age."

The ovaria were absent.

A similar case is related by Mr. Cripps of Liverpool, in the *Lancet* of June 30, 1838.

Mr. Pott removed both ovaries (in a case of hernia) from a female who had menstruated regularly, and in whom the catamenia never reappeared. And M. Robert, quoted by Raciborski, mentions that in his travels in Asia he met with women who had undergone extirpation of the ovaries, and that they had assumed something of a masculine appearance, and never menstruated.

3rd. There are well-authenticated cases on record by Morgagni, Frank, and others, in which amenorrhœa was caused by the disorganization of both ovaries, or of one, when the other was absent.

“My friend, Dr. Montgomery, has related to me the history of a case of this kind which came under his care. The patient had menstruated regularly up to the period of her admission into Sir Patrick Dun’s Hospital for some obscure abdominal affection. After this time amenorrhœa supervened, and continued until her death. Upon making a post mortem examination, it was discovered that the patient had but one ovary, and that it had become completely disorganized.”—*Churchill’s Diseases of Women*, vol. i. p. 77, note.

4th. Menstruation is not merely a simple unconscious excretion of fluid, but is more or less preceded or accompanied by certain symptoms, local and general; such as heaviness, languor, headach, feverishness, pain in the back, weight about the groins and lower part of the abdomen, with heat and uneasiness of the vagina and external parts. This periodical effort has been termed *menstrual molimen*, and it ceases for the time when the secretion is fairly established.

But these symptoms have been observed to occur periodically in cases where the uterus is altogether wanting. Dr. Lee mentions a case related to him by Dr. Elliston, of a married lady who had never menstruated, and whose vagina was found upon examination to terminate in a *cul de sac*. An incision was made, and Mr. Cline plunged in a bistoury as far as he dare, but no examination could detect a uterus. Yet she had all the external signs of puberty except menstruation, and suffered “most excruciating pains in the pelvis every month; there was every symptom of menstruation except the discharge.” *Cyclop. of Pract. Med.* vol. iii. p. 226.

Dr. Lee met with a similar case of *menstrual molimen* monthly, but without discharge, and no examination could enable him to discover the uterus.

We ourselves saw a case of the same kind in an unmarried woman. Every month she had the usual symptoms of menstruation, but no discharge, and she stated also that she had

sexual desire. The vagina was about an inch long, terminating in a *cul de sac*. An examination *per rectum* led to the conclusion that the uterus was absent, and as she had all other marks of puberty, it was inferred that the ovaries were present.

A still more remarkable instance is recorded by the present Master of the Lying-in Hospital, of a case of inverted uterus, in which he removed the inverted fundus uteri with the Fallopian tubes; that is, I suppose, fully half of the uterus, and that the most important part, as far as menstruation is concerned, as the cervix does not secrete catamenia. Dr. Johnson observes:

“In about a year after, I had a visit from the mother of my patient, who told me that, for a few months after her daughter’s return to the country, she suffered some disquietude on account of the absence of the catamenia, but that she had then no further apprehension, having menstruated twice lately.”—*Dub. Hosp. Reports*, vol. iii.

Other cases of the same kind could be adduced if we had space to do so.

5th. “The fact that the ovaries do undergo a periodical increase of size before and at the usual menstrual terms, is capable of diversified proof, in various forms of disease of these glands, and has also been demonstrated in their healthy condition, as in the case of their hernial protrusion.”—*Ritchie, M. G.*, 1845, p. 1045.

6th. At the cessation of menstruation, according to the researches of Raciborski, we find remarkable retrogressive changes taking place in the ovaries, “which are, so to speak, stricken with death.”

“The diameters of the ovaries having notably diminished, their external envelope is thrown into a great number of convolutions, rendering the surfaces unequal, and giving them somewhat the appearance of a peach stone. At the same time, the fluid in the Graafian vesicles undergoes a curious transformation: the most liquid parts are absorbed; others, of greater consistence, form a pseudo-membranous layer, which, adhering closely to the walls of the vesicles, augments their thickness. Examined in this state, the vesicles present the appearance of shrivelled bags, of a greyish or opaque-white; their cavity is generally empty and dry; very rarely there is a slight moisture. It sometimes happens that the walls of these little bags (*bourses*), pressed upon by the contraction of the surrounding tissues, are brought into contact, and appear as solid bodies, with scarce a trace of cavity.

“If these bags be caught with the forceps, they are easily removed from their cells without rupture, leaving behind them a rounded excavation, formed by the external tunic of the Graafian follicle.

Examined with the microscope, they exhibit a well-marked fibrous structure.

"In other ovaries we find no trace of vesicles, the interior of the ovary being transformed into a cellulo-fibrous tissue, hard to the touch; in these cases the ovaries are sometimes so atrophied as not to be larger than the utero-ovarian ligaments."—p. 336.

7th. So far, then, we find changes in the ovary at the two great epochs of female life, and in the same direction; further, we find that the absence or destruction of the ovary is fatal to the secretion of the catamenia; and, although in the absence of the uterus the fluid cannot be excreted, we yet find all the other symptoms which accompany menstruation recurring periodically as usual.

The logical inference is, of course, that the ovaries, or one of them, are essential to menstruation; but we must go further, and see if we have evidence of how it is they exert their influence. This we may, perhaps, discover, by observing minutely the changes which take place in the ovaries during the menstrual period.

The credit of noting the peculiar condition of the ovary at the time of menstruation, in modern times, belongs to Mr. Cruikshank, who observes, in a paper published in 1797:

"I have also in my possession the uterus and ovaria of a young woman, who died with the menses upon her. The external membranes of the ovary were burst at one place, from whence I suspect an ovum escaped, descended through the tube to the uterus, and was washed off by the menstrual blood."

Raciborski mentions an observation of Brugnoni, published 1790, who, when examining the body of a girl of fourteen, possessing all the signs of virginity, found a corpus luteum, of a yellow colour ("corps jaune"), forming a protuberance on the surface of the ovary, and having a small opening in the tunic leading to its cavity.

Five similar examples have been published by Dr. Robert Lee; in all, the coat of the ovary had been perforated, and each opening communicated with the sac of a Graafian vesicle. We may quote one of the cases:

"On the 11th of March, 1831, we examined the body of a young woman who died during menstruation, from inflammation of the median-basilic vein. The left ovarium was larger than the right, and, at one point, a small circular opening, with thin, irregular edges, was observed in the peritoneal coat, which led to a cavity of no great depth in the ovarium. Around the opening, to an extent of three or four lines, the surface of the ovarium was of a

bright red colour, and considerably elevated above the surrounding part of the peritoneal coat. On cutting into the ovarium its substance around the opening and depression was vascular, and several Graafian vesicles of different sizes were observed. The right ovarium was in its ordinary state. Both Fallopian tubes were intensely red and swollen, and their cavities were filled with menstrual fluid. The lining membrane of the uterus was coated with the same fluid, and the parietes were soft and vascular. The size of the uterus was not increased."—*Cyclop. of Pract. Med.* vol. iii. p. 226.

Appearances differing but little from the above were noted in the other cases.

In 1832, M. C. Negrier read a paper on this subject before the Medical Society of Angers, in which he quoted five cases of a rupture of a Graafian vesicle occurring during menstruation.

In 1838, M. Gendrin published his *Traité Philosophique de Méd. Pratique*, and we find there five additional cases, one of which, as "*instar omnium*," we shall quote:

"A woman aged 30, subject to mental derangement at the menstrual period, hung herself, as the husband stated, at the epoch of menstruation. The mucous membrane of the vagina and cervix uteri were very vascular. The substance of the uterus natural, its cavity contained mucus tinged with blood. The inner membrane was lined by fungiform villi of a greyish colour, especially at the fundus, which villi were a line in length and best seen under water. The right Fallopian tube and ovary were natural. In the latter were three Graafian vesicles, from half a line to two lines under the surface. The left Fallopian tube was dilated, so as to be a line in diameter, and was filled with bloody mucus, which extended to the funnel of the fimbriæ, which it filled.

"The left ovary was injected at its surface, and about three lines, in the middle of which a jagged-edged rupture was visible, about a line in diameter. The cavity could contain a hemp seed; its walls were intensely red. It was obviously a broken Graafian vesicle. Four Graafian vesicles existed at various depths in the same ovary."—*Brit. and For. Med. Rev.* vol. x. p. 68.

Mr. Gridwood of London published a very interesting letter in the *Lancet* of March 4th, 1843, containing some most valuable facts. Speaking of the changes in the ovary of a female who has menstruated for some time, he says:

"The soft, glistening, polished surface is now seamed and scared throughout; its regular oval form no longer exists; deep corrugations have destroyed it; scars, some still isolated, appear, but a mass of cicatrices, irregular and ill-defined, generally marks the surfaces."

He adduces five cases in which evidences of the escape of

Graafian vesicles were manifest (one of those is quoted by Dr. Lee, and included among his cases); and not only did the appearances correspond with those already noticed, but Mr. Gridwood has the merit of advancing a step further, and remarking the correspondence of the number of scars with the number of times the female has menstruated, as in the case we shall quote, and others. Mr. Gridwood has the credit of having preceded Dr. Lee in his observations (though not in the publication of them), having pointed out their peculiarities to Dr. Lee, but without, at the time, converting him to his opinion.

“In January, 1834, Jane Cumming, eighteen years of age, died of consumption. She had menstruated only six times. Mr. Webster, who was aware of my views regarding the exciting cause of menstruation, and of my anxiety to examine the ovaries, allowed me to be present at the autopsy. We could readily detect five depressions or cicatrices, three on one, two on the other ovary; of a sixth we were doubtful.”

“In August, 1838, I opened the body of Miss G. who had not completed her sixteenth year, and who had been regular for two years previous to her sudden death. In her I found about twenty-two of the usual marks on the ovaries. All those appearances, as they occurred were brought under the notice of my friend, Dr. Robert Lee, but still without being able to convince him that the views I entertained respecting their cause, as above explained, were correct.”

Professor Argenti, of Padua, has recorded one similar case(*t*), and Mr. Bischoff(*u*) four such. M. Raciborski, in the work before us, relates cases essentially the same, i. e., shewing the escape of a Graafian vesicle during a menstrual period, though he differs in some details from other observers. In one case, apparently a virgin, who died during menstruation, in the midst of ancient cicatrices, one recent one was observed in the left ovary, surrounded by a red circle—

“Corresponding anteriorly to a small excavation, capable of containing a cherry stone, lined by a membrane folded or festooned at its borders, of an orange colour. This small cavity contained a small black, soft clot of blood, attached to the walls of the cavity by some filaments.”—p. 423.

But he goes a step further, and states, that from all the facts he has observed, and many of which are given, this escape of the vesicle appears to occur generally towards the end of men-

(*t*) *Annali Univ. de Med.* 1843, p. 311.

(*u*) *Journ. de l'Expérience*, Aout. 10, 1843.

struation, though there are exceptions. On the other hand, Dr. Ritchie of Glasgow, in his learned and elaborate papers, has endeavoured to prove that the escape of a vesicle is not necessarily coincident with menstruation, and so not in any sense the cause of it. In his own words:

“Taking into view, therefore, these various elements, it would appear that the arguments in favour of the bursting of a Graafian follicle as the cause of menstruation, proceed on the fallacy of mistaking an accompanying phenomenon, and, in some sense, an effect, for a cause; and without attempting any explanation of the fact ourselves, but esteeming it, as in the present state of our knowledge, a strictly ultimate one, the writer presumes that menstruation and the elimination of ova are equally functional phenomena of the ovaries, dependent on their specific vital action as glands: this action, in the healthy, non-gravid, and non-lactating woman, sustaining a periodical exaltation of power, which extends to the nervous, vascular, and absorbing tissues of the ovaries, occasioning the maturation and discharge of their vesicles, and to the uterus and vagina, giving rise to the extension of deciduous vessels, and to the menses.”—*Medical Gazette*, 1845, p. 941.

Cases too are adduced to shew the presence of menstruation for successive periods without the escape of an ovum, and the escape of a mature ovum without menstruation.

Now let us remark that in all the cases quoted and referred to, the essential facts are alike, viz., a sac from which a vesicle has escaped, and a perforation of the coats of the ovary immediately over it, and this during a menstrual epoch.

We regret that as yet the observations are so few: however, we must only be the more cautious in drawing inferences. There is, moreover, a large class of observations which we might fairly use, but which we shall merely suggest. Blumenbach, Cuvier, Home, and others, have adduced cases of corpora lutea in virgins. Now it is certainly established that true corpora lutea are the result of conception; these, therefore, were either not corpora lutea, or the girls were not virgins; if the former, which is the more probable, the appearances were those of the false corpora lutea, described by Patterson, and others, the result, in all probability, of menstruation. But this point we do not press. Let us deal with the authenticated facts before us. They amount to upwards of twenty, at the least, and are essentially the same, the appearances being quite unlike corpora lutea.

Before we attempt to draw our own conclusions, let us see what were the inferences made by the narrators of these cases.

Dr. Lee remarks:

“There are certain facts which seem to prove that it is not to

the influence of the uterus, but of the ovaria, that we are to attribute all the changes which take place in the female pelvis, in the mammae, and uterine system at the period of puberty; and it seems not improbable from the following facts, that it is also to certain changes in the Graafian vesicles at the time of menstruation, that all the phenomena of that singular process are to be referred."—*Cyclop.*

In his "Lectures" he goes a little further, and states that it is probable that at each period "a Graafian vesicle bursts, and its contents escape."—p. 40.

M. Gendrin has thrown his conclusions into a more definite and positive shape; we shall quote them from the source already indicated:

"A. *Conditions necessary for the Capacity to menstruate.*

"1. The normal development of the ovaria and Fallopian tube, which takes place at puberty, and lasts to the critical age.

"2. The presence of Graafian vesicles in the ovaria, which are more mature the nearer they are to the surface.

"B. *Conditions necessary for the Appearance and actual Presence of the Flux.*

"1. The presence at the surface of the ovary of one or two inflamed cells, evidently resulting from the rupture of a vesicle, which is in process of cure by reparative inflammation.

"2. The dilatation of the Fallopian tube, and its position still very near the ovary.

"3. The repletion of the Fallopian tube with mucus more or less bloody.

"4. The presence of sanguinolent mucus, or grumous blood in the uterus.

"5. The manifestation of fungiform villi, which are probably vascular, on the surface of the uterus.

"6. The turgescence of the vascular system of the ovary, Fallopian tube, uterus, and vagina, in the last of which organs it may be recognised during life; also the turgescence of the mammae.

"C. *Conditions where the menstrual Flux has terminated, and during the Intervals between the Periods.*

"1. The greater or less cicatrization of the ovarian alveoli.

"2. Corpora lutea, the remains of a cicatrization completed, which De Graaf had attributed to a previous fecundation.

"3. The progressive development of Graafian vesicles, and their progressive approach to the ovarian surface.

"D. *Conditions of the menstrual Flux, as yet unestablished before Puberty, or having ceased after the critical Age.*

"1. The absence of the ovarian vesicle.

"2. The non-development or the atrophy of the ovary.

“ E. *Conditions for interrupted or irregular Menstruation.*

“ 1. The Graafian vesicles, small in number, and removed from the ovarian surface.

“ 2. When the flux has taken place, the existence of ovarian alveoli more or less cicatrized, and the absence of Graafian vesicles of a certain degree of development, situated near the ovarian surface.

“ F. *Conditions of Menstruation suppressed for a certain Time by some morbid Cause.*

“ 1. The total absence of Graafian vesicles, whether deeply or superficially seated.

“ 2. A greater or less degree of atrophy of the ovaria and Fallopian tubes.

“ G. *Conditions where Menstruation has never been established.*

“ 1. Absence of Graafian vesicles, and the atrophy of the ovaria and Fallopian tubes.”

Mr. Girdwood, addressing Professor Grant, remarks:

“ Well do I recollect your scepticism on this matter, and of my comparison of a woman to a domestic hen, another biped ; but the woman instead of, like the bird, depositing her egg daily for some indefinite period, only takes more time to mature it, and requires a more tedious and complicated process to void it only once a month.”

With this view coincides Cuvier, Dugès, Duvernoy, and M. Pouchet, whose valuable work was published in 1842, though he had taught the doctrine since 1835 in his Lectures at Rouen.

M. Raciborski infers, that

“ The menstrual period is then, evidently, nothing but a critical termination of the congestion which, in the highest degree, accompanies the development of the Graafian vesicle. After what has already been shewn, we are obliged to conclude that it coincides with the hæmorrhage which takes place within the vesicle a few days before its evacuation.”—p. 447.

This evacuation, he believes, occurs every month towards the end of menstruation, and which he believes to be nearly the only period at which impregnation takes place, in accordance with the rule of Hippocrates.

Professor Argenti, of Padua, regards the catamenia as the consequence of the periodical function of the ovaries, in the evolution of a Graafian vesicle.

M. Chereau thus expresses his views :

“ Menstruation is but a periodical phenomenon, commencing at puberty, and terminating at the critical age ; which phenomenon

consists in the production and development of ovarian vesicles, i. e., in the maturation of an ovum which is periodically developed, either to be discharged with the menstrual fluid by the uterus, or to be destroyed by rupture and inflammation."—p. 33.

Against these conclusions we are met by two very serious objections, which would probably occur to every attentive observer, but which have been strongly put forward in the *British and Foreign Review*, vol. x. p. 73:

"1. If at every menstruation an ovule escapes from a ruptured Graafian vesicle, the cicatrices of corpora lutea must be much more numerous than we find them to be. Supposing a woman to menstruate once in every lunar month, thirteen ovarian ruptures will occur annually; and unless we suppose that the wound so caused at each period is completely healed before a new solution of continuity takes place, we should find the ovaria of a menstruating woman, one would think, indented and filled with numerous excavations in different states of reparation."

Let us answer this difficulty by a fact from Mr. Girdwood's paper:

"A case of a young unmarried lady, who was sixteen years and ten months old at the time of her decease. . . . The catamenia first appeared when between twelve and thirteen; they were regular in their appearance during the three years they continued to occur. Thus she had about six and thirty periodic returns. On examining these ovaries you will observe, that the surface presents several indentations, some isolated, some grouped together and incident upon each other. These indentations or small cicatrices are about the size of a small mustard seed; they are oblong in form. Those in groups have the oblong shape less evident than those which are isolated, and are altogether not so well defined; but still, without much difficulty, the eye can detect spot after spot in each group, and single out almost every complete indentation. In all I think from thirty-two to thirty-four may be reckoned, about eighteen in one ovary, and sixteen in the other."—*Lancet*, March 4, 1843.

And he adds:

"At all events I repeat the fact, now attested by my numerous observations, that there exists a most close and remarkable relation between the number of cicatrices on the surface of the ovaries, and the number of times a female has menstruated."

This, we take it, is quite sufficient answer to a hypothetical objection.

2. The second objection is founded on the limited and fixed number of the Graafian vesicles. The number has been variously stated, ranging from twelve to forty-five or

fifty; but on taking the larger of these numbers, they would be exhausted by menstruation alone in less than five years, supposing one to be discharged at each period.

Now this difficulty exists *solely* in the assumption that the number *is* limited and fixed, for which physiology affords no ground. It would be quite sufficient answer to assume that these vesicles, originally secreted by the parenchyma of the ovaries, are succeeded by others produced in like manner. This is confirmed by the fact, that notwithstanding the number that do escape (be it accidentally or otherwise), the remaining ones do not appear to undergo a regular and proportionate diminution.

But Dr. Martin Barry's experiment settles the question as a matter of fact. Upon minute and elaborate investigation by the aid of the microscope, he found that the ovaria of all the mammalia are filled with what he terms minute ovisacs, as numerous as the ova in the roe of a fish, and which are constantly decaying and developing.

And Dr. Ritchie concludes from his observations, that

"Ova, at least, and generally their containing cells, are formed and secreted in indefinite numbers, from the ovaries, by the inherent organism and power of the latter as glands, throughout every stage of female life."—*Med. Gaz.* 1845, p. 1054.

After entering, thus, into a detail of facts, and the inferences drawn from them by those who have carefully observed them, let us see how far we may venture in our conclusions, without passing from facts to mere opinions.

1. It appears that ovarian influence is necessary to menstruation.

a. Because, when the ovaries are congenitally absent, or have been removed, or have become disorganized, menstruation is absent or ceases.

b. Because, when the uterus is absent, or has been removed, the ovaries being present, the menstrual molimen still occurs periodically.

c. Because, coincident with the commencement and cessation of menstruation, we find corresponding organic changes in the ovaries.

2. We find that the ovaries do not contain a definite and limited number of Graafian vesicles, as Haller and others have thought, but a vast assemblage, according to the researches of Dr. Martin Barry, and the number of vesicles in which may be increased, according to Dr. Ritchie.

3. In the ovaries of women who menstruate regularly,

there may be observed a number of the Graafian vesicles, in different degrees of development, from the size of a millet seed to that of a cherry stone.

4. There are cases on record of women who died just before menstruating, in one of whose ovaries a vesicle was detected in a state of great maturity, enlarged and prominent, with its outer coverings much thinned, semi-transparent, and, in one point, apparently about to burst.

5. In a considerable number of cases of death during menstruation, one ovary presented a cavity recently emptied, or partially filled by a clot, from which a duct-like canal passed through the coats of the ovary. That this cavity contained a Graafian vesicle cannot reasonably be doubted.

6. On examining the ovaries, a number of cicatrices may be observed, some more, some less recent; and in several cases, these have been ascertained to correspond exactly with the number of the menstrual periods. According to Mr. Girdwood's researches, this is always the case.

7. That these cicatrices, when cut open, exhibit the yellow spots which have been so often alluded to in all the controversies about "*corpora lutea*."

8. Cases are on record, in which (according to Dr. Ritchie) menstruation has taken place without the escape of a vesicle, and also in which there was evidence of the escape of a vesicle previous to menstruation. This latter case has occurred more frequently than the former (and answers to those cases in which conception has preceded menstruation, or occurred during lactation); but both are so rare, as scarcely, if at all, to affect the question.

9. From all this evidence, the conclusion is inevitable, that there is a periodical evolution of Graafian vesicles, and that this occurs at each menstrual period.

But other questions immediately arise: for example, whether the concurrence is a *coincidence*, *accidental* or *necessary*; or whether the escape of the ovum is the *proximate cause* of menstruation. Again, in what relation menstruation stands with regard to conception, whether as an *alternative* of the vesicle not being impregnated (according to Dr. Power), or as a *preparation* for conception.

These questions can scarcely be resolved at present, but we may indicate briefly the position in which the arguments stand.

The arguments in favour of the coincidence being *accidental*, are mainly founded on the exceptional cases (8) alluded to, and on the difficulty of conceiving such great excitement of

the uterus and Fallopian tubes being the result of the escape of a simple vesicle. But if the regularity of the coincidence be proved by further examination to be as complete as appears in the cases we have referred to, this supposition must fall to the ground as untenable.

2. As to the escape of the vesicle being the *proximate cause* of menstruation, it is not easy at present to decide. That the development and escape of a vesicle are very closely connected with the uterine excitement and secretion is clear; but we have not evidence enough as yet to shew whether the escape precedes the secretion, or whether, as Raciborski thinks, it takes place towards the end of the menstrual period. Upon both these points a certain amount of evidence has been adduced from the data afforded by conception, to which we shall presently refer.

3. But it is quite conceivable that the concurrence of menstruation and the escape of the ovum, without being either of the nature of cause and effect, or a mere accident, may be a necessary coincidence, constituting a sort of *compound function*, which would be incomplete should either element fail.

4. Dr. Power and others regard menstruation as the *alternative* of the vesicle not being impregnated, and consequently fix the period of conception before the discharge appears.

Now we have no reason whatever to suppose that there are two sets of Graafian vesicles in the ovaries, one for menstruation and one for conception; nor have we any knowledge of a difference of structure, condition, or power, fitting one vesicle for menstruation and one for impregnation: so far as we know, they are all exactly alike, and the development of those which are lost, is perfectly analogous to that of those which are impregnated, until that new impulse is received. Further, the condition of the lining membrane of the uterus, of the Fallopian tubes, and, to a certain extent, of the ovaries, with the simple exception of the menstrual discharge, is strikingly analogous to the condition of those organs immediately after conception: and so far it would appear, that these changes are a preparation for other results according as the vivifying stimulus may be present or absent.

We may further add, that the arguments and observations of those who maintain that impregnation takes place in the ovary, all tend to the support of the view that menstruation is the alternative of conception.

On the other hand, it would be alleged that this would be to limit the period for conception to the time between the

commencement of the organic excitement and the appearance of the catamenia, and that (reckoning nine months as the time for gestation) the records of births would either disprove the supposition, or the accuracy of the period of gestation. Women, as we know, calculate nine months from the mid-period between the last menstruation and the first omission, and it is to be presumed that they have found this method tolerably accurate, from the fact of their continuing so to calculate. No one would deny the force of this argument, loose as it is necessarily; but it may be suggested, that if more women (as we think is the case) are found to overrun their calculated time than to anticipate it, it would be quite in favour of Dr. Power's view.

5. That menstruation is a preparation for conception is an opinion almost as old as medicine itself. It was held at any rate by Hippocrates, and doubtless was founded on observation and calculation backward from the date of delivery. But this preparation had respect only to the condition of the uterus, and differed "*toto cœlo*" from the modern view.

M. Raciborski conceives that the vesicle arrives at its highest point of development and escapes, near the termination of menstruation, and that this is the moment when impregnation takes place, the discharge being a critical termination of the organic congestion.

Now, in support of this view, he has adduced the analogy between menstruation, accompanied by the evolution of a vesicle, and the rut in animals. The researches of Cuvier, Duvernoy, Pouchet, Bischoff, Raciborski, and others, have proved to demonstration, that at the rutting season, the Graafian vesicles in animals of various grades, enlarge and finally escape, when there has been no intercourse with the male, and that this evolution of ova occurs at each period of rut. Moreover, it is well known, that at this time there is a glairy discharge from the vagina of mammalia, and in some cases the discharge has been observed to be of a red colour, rendering the analogy still more close.

Mr. Girdwood, in his remarkable and ingenious paper, has undertaken to shew,

"1. That in the lower animals, the catamenia appear in them as well as in the human female; and that, whilst the discharge is characterized in them, as in her, by a periodicity peculiar to each separate genus, it is, at least, in the higher order of mammals, equally sanguineous as it is observed to be in woman.

"2. That in all animals in which the sanguineous discharge is apparent, in the human female as well as in the other mammals,

the discharge is indicative of the maturation of an ovum, and of its being on the point of elimination from the ovary, and that the capability for impregnation is during menstruation at its acmè.

"3. That the periodicity of menstruation, indicative of this maturation and impregnability of the ovum, is precisely that quality which allies the phenomena to most of the leading phenomena of nature, vital as well as physical, dependent upon heat, and like them, even in a being so far removed by civilization from physical influences as man, in him they are, as in other animals, affected by the seasons."—*Lancet*, Dec. 7, 1844, p. 312.

Most authors have based an objection against this analogy, on the fact that the rutting period is that of sexual desire in animals, and the reverse in the human female; but in the latter statement Mr. Girdwood does not agree.

The instances Mr. G. adduces in support of his proposition appear quite conclusive of the fact, that a discharge analogous to menstruation does take place in animals; but as it generally appears towards the termination of "the heat," it is not clear but the analogy may be in favour of the view stated in paragraph 4.

The most important evidence, however, adduced by M. Raciborski consists in certain cases, in which it was possible to ascertain the period of the last menstruation, and of the first subsequent sexual intercourse. But an analysis of the cases is far from proving the point, for of fifteen cases, seven had intercourse a day or two after menstruation, and were delivered in nine months; two had intercourse during menstruation, and were confined in nine months; and six had connexion a day or two before an expected period, and, dating from thence, were delivered in nine months. To explain this latter series, M. Raciborski supposes, that either the evolution of the vesicle was hastened by sexual intercourse, or that some of the seminal fluid remained in the uterus until the vesicle was evolved at the end of menstruation.

Lastly, the arguments which seem to prove that impregnation takes place in the uterus, and not in the ovarium, will of course tell in favour of this view.

6. But then, on the other hand, are we to conclude, that intercourse during the interval is never followed by conception. Popularly it is believed to be, and it would be very difficult to prove that it is not, partly on account of the doubtful nature of the best information we can obtain, and partly because, so far as that information can be relied on, it would seem to prove it. M. Raciborski mentions one fact of this kind, but considers it an exception to the rule.

We have thus endeavoured to fulfil the promise made at

the commencement of this notice. The first part we have presented pretty fully, in the latter part we have had in view to state a few questions and their bearings, so as to prepare the way for a further investigation at a future time.

On the Nature, Causes, Prevention, and Treatment of acute Hydrocephalus, or Water-Brain-Fever. By THOMAS SMITH, A. M., M. D., Senior Physician to the Leeds Public Dispensary, &c. &c. London: 1845. 8vo. pp. 168.

THE author in his preface declares this to be intended as a popular treatise, written avowedly for the purpose of supplying to parents, guardians, and friends, a plain exposition of an evil which will, if not checked in time, most assuredly become irremediable; and also with the view of laying down some rules by means of which even a few lives may be saved, and much misery prevented. Had he strictly confined himself to the carrying out of such a laudable object, we should not have deemed it necessary to take further notice of it; but we feel we should be unfaithful to the trust reposed in us, were we to adopt this course, when we find him, in a work expressly designed for the non-professional public, entering into an elaborate and minute description of the disease, from the earliest premonitory symptoms, through its different stages, detailing symptoms, diagnosis, differential diagnosis, &c.; and sagaciously calling to his aid cerebral auscultation, for the instruction of mothers and midwives, to the consideration of which he devotes seven pages; winding up with this sapient conclusion:

“ Though I have for years attentively studied the auscultic phenomena witnessed in common in various lesions of the brain, I cannot satisfy myself that as yet we possess any definite knowledge, which may be said to indicate with certainty any individual or peculiar malady of this organ; but they are merely descriptive of sundry morbid changes occurring in that viscus, the result of numerous causes, whose separate effects are not at present appreciable to our senses, or distinguished by their means one from another.”

With the detail of premonitory symptoms we would not greatly quarrel, inasmuch as such might be considered within the legitimate range of the author who is writing for parents and nurses; but we confess, when we find this great display of learning, we feel disposed, though reluctantly, for the sake

of our common profession, to look for some more interested motive, and to hesitate how far we can consider our author's production and the following sentiment contained therein tally, viz.:

"The knowledge of having contributed a mite to the relief of suffering humanity, will entail far more permanent happiness than a shoal of *golden fees* can ever produce."

Though we equally with Dr. Smith deplore the increased frequency of occurrence of hydrocephalus, still we are not prepared to admit with him that either medical or popular literature is so wholly deficient in suitable admonitions to parents and nurses, as to permit him to enjoy undisputedly the credit he lays claims to, of taking the "initiative," as he calls it, in furnishing such useful information. He certainly may claim as his own a very peculiar style and notoriety-hunting manner of doing so; and this we willingly concede to him. Dr. Smith, with others, objects to the term hydrocephalus; considering the disease to be, strictly speaking, an idiopathic fever of infants, strongly allied to the *febris lenta nervosa* of adults; and he rejects morbid anatomy, as useless in the elucidation of its phenomena.

"For I should no more expect," he says, "to arrive at just notions of the pathological condition of its admonitory and subsequent stages, by meditating upon the accumulated and curious statistics furnished by necropsy, than I should expect to arrive at a true knowledge of the essence of any idiopathic fever, simply by contemplating its ravages after death."

Carrying out this view, he refers all the causes of this disease to influences of a depressing character, as unhealthy nutrition, deficient clothing, impure atmosphere, &c., and denies inflammation to have anything to do with it, except that it may, as in the fever of adults, arise in its progress. That it is hereditary he denies, and considers himself justified in doing so by denying the same of scrofula, with which diathesis he correctly enough connects hydrocephalus; but, though we do not go the entire length with Lugol in asserting the impossibility of scrofula being produced by external agents, unless the predisposition be present, yet we think him fully justified in maintaining the hereditary nature of strumous disease. Admitting the close relationship that exists between hydrocephalus and struma, we do not think, with Dr. Smith, that it argues against hereditary transmission, that the parent or parents have not had the exact form displaying itself in the offspring; it is quite enough that the scrofulous diathesis

has been inherited. We have more than once seen struma in various forms manifesting itself in brothers and sisters, one or both of whose parents had died of tubercular phthisis—in one, putting on the form of hydrocephalus, in another scrofulous abscesses, in a third eruptions, &c.; we therefore hold, in opposition to our author, that this form of hydrocephalus described by him (which seems to correspond with the first variety of Cheyne), or at least the predisposition to it, may be hereditary, though we will not attempt to deny the influence that causes such as he describes may have in producing it. With the exception of what has been just now referred to, we have not been able to discover any thing in this treatise requiring further notice. The author's opinion of his superior powers of diagnosis may be gleaned from the following quotations :

“By those who do not make accurate distinction between head disease of infants accruing upon the various forms of fever specified, hydrocephalic fever is thought to be tolerably manageable by active treatment in the first stage. I have heard practitioners speak of their success with much confidence, until their explanations have convinced me that they were speaking of cases in their whole aspect distinct from the fatal form of which we are now treating ; in fact, they have mistaken phrenitis in its acute or subacute form for hydrocephalus. If my convictions were not strong on this point, I should deem it useless and impertinent to address myself in a popular style to parents on this disease.”

How very modest ! And again :

“But I am quite satisfied that, although the malady is much better discriminated by many of the moderns, the majority of medical men [of course, bear in mind, good parents, Dr. Smith is not one of this number] still commit the same error ; for few of them, apparently, in practice, are found to lay down any distinct lines of demarcation whereby the appearances and progress of this disorder may be distinguished from worms, visceral obstruction, or remittent fever passing into coma.”

And this from a medical man writing to the public ! As to the means of prevention so largely dwelt upon, we do not find any additional contribution to the knowledge we were previously in possession of. They would apply equally well to ward off any other form of disease ; for example, avoidance of early marriages, too close intermarriages, indolence of life, unwholesome food, imperfect clothing, impure atmosphere, &c. In fact, we think our Author might at once have referred the parents, guardians, friends, and readers of his book, to Combe on the physiological and moral Management of Infancy,

from which he seems to have largely drawn. The chapters on prophylactic remedial treatment, and treatment where the disease has already become developed, seem to have for their principal object the bringing into notice a revulsion bath invented by his friend Dr. Collier, and improved upon, of course, by himself; which is nothing more nor less than a simple bath-tub, with a cistern at the head of it, so constructed that a stream of cold water may be kept playing on the patient's head, the body being immersed in hot water, so long as may be deemed advisable. But enough of this. We must now take leave of our author, regretting he did not place it in our power to speak more favourably of his production; and while we deprecate the imputation of a disposition to frown down any attempts to diminish the too many fertile sources of delicacy of constitution and disease, we cannot but express it as our opinion, that he would have best consulted his own reputation had he corrected his proofs by drawing his pen more sweepingly across them, instead of returning them, in the style we find them, to the printer.

Pulmonary Consumption successfully treated with Naphtha; with Cases from other Medical Men in Support of that Treatment; and an Appendix, shewing the Utility of puncturing tuberculous Cavities, as an Adjuvant in the Cure of Phthisis. Second Edition, revised and enlarged. By JOHN HASTINGS, M. D., Senior Physician to the Blenheim-street Dispensary. 1845. 8vo. pp. 260.

In the introduction to the present edition, Dr. Hastings says:

“I have, for several years past, directed my attention to the pathology of phthisis, with the view of ascertaining by experimental research the relative value of the ordinary remedies prescribed for this complaint; and whether there was, in reality, no remedy to be found capable of controlling its course. The result of that inquiry has been the discovery and development of the method of treatment detailed at length in another part of this volume. My original opinion of that treatment is still unaltered; and if time has chastened or subdued my enthusiasm on the subject, experience has, on the other hand, strengthened my opinion of the great and curative powers of naphtha in tuberculous disease.”

In another place (p. 108) Dr. Hastings says: “In the treatment of the disease under consideration, by naphtha, medical men, generally, it appears, have been less successful

than myself." And he attributes this want of success to the employment of a wrong kind of naphtha; to its use in cases in which it is contra-indicated; or to the patients being treated under unfavourable circumstances.

It appears that there are several very different substances sold in commerce under the common name of naphtha: the kind which Dr. Hastings says that he has found so beneficial in phthisis, is what chemists call *pyro-acetic spirit*, or *acetone*. It may be obtained by the dry distillation of an acetate, or by passing the vapour of acetic acid through a red-hot porcelain tube. It can be distinguished by not becoming milky with water, having no acid reaction, and effervescing without change of colour upon the addition of nitric acid.

Dr. Hastings found that the globules of tubercle disappeared when heated gently in pyro-acetic spirit: and that a similar effect was produced by the exposure of tuberculous matter, enclosed in an intestine, to the vapour of this substance. These experiments induced him to exhibit the medicine not only by the stomach, but also in the way of inhalation.

The following extract will display the theoretical notions which led Dr. Hastings to the employment of naphtha in phthisis :

"The reasons which induced me to deviate from a line of medical practice, which has so universally and for so long a time been in vogue, for that now submitted to the Profession, was the fatal termination of all cases, whatever was the treatment adopted, during an experience of upwards of twenty years. I was led to the conclusion, from a careful survey of the chemical analysis of tubercle by Thenard, that it was defective, inasmuch as the composition of the animal matter, which, it will be observed, amounted to ninety-eight parts out of a hundred, had not been investigated. From the greasy nature of tubercle in its crude state, there did not exist the slightest doubt in my mind that carbon entered largely into its formation, and that its composition had a striking resemblance to fatty matter; this opinion was further strengthened by the discovery of those spherical bodies, which strikingly resemble the smallest oil-globules found in milk. Further investigation may prove that the last change effected in tubercles, before being expelled from the lungs, is the return to that normal structure from whence they derive their existence, which will not only be a curious, but a highly interesting fact. From these opinions I determined to employ those compound agents rich in carbon and hydrogen in the treatment of phthisis, which had not been previously used in medicine; not with the idea that they would make up the deficiency in fat which the system had sustained in the progress of the disease, but that they would be productive of a change in the blood, power-

ful enough to destroy the morbid condition which generated tubercle. Naphtha, from its chemical composition, appeared to be most likely to stop the ruthless progress of destruction which consumption has effected, and is still effecting, in the human race."—p. 150.

We have only to remark on the foregoing extract, that Dr. Hastings does seem to be a little fanciful, and not very profoundly acquainted with chemistry or microscopy. However, these characteristics may not have prevented him from discovering a useful remedy : Laennec was highly imaginative also, and has left on record many *jejune* speculations. Dr. Hastings makes several confident statements as to his success in curing phthisis; and the subject is of such importance as to deserve the most serious consideration. He says (p. 144):

"I have treated two cases out of sixty-two successfully, after cavities had established themselves, exclusively of the twenty-third case reported in the first edition of this book. It must be remembered that the cavities in both cases were small, whilst the greatest portion of the lungs was uncontaminated with tubercle. In many of the cases in which recovery did not take place, the most extraordinary and unexpected relief in all the distressing symptoms of the disease was experienced, so that life was not only prolonged, but rendered more comfortable. I do not pretend this was a constant occurrence; at the same time, it was not an unfrequent one. But it is chiefly in the early stage of the disease that success is to be expected, as seen by the cases recorded by myself and others. From my own notes of two hundred cases, treated during the first eighteen months, at this period of its development, I have realized not less than sixty-six per cent. of recoveries; and, however startling this may appear to those who have not given the treatment a fair trial, or to those who have seen it fail in occasional cases, I emphatically declare, that every one, both in its local and general symptoms, afforded good evidence to my mind of its being tubercular consumption."

And again (p. 151):

— "The correctness of my judgment may be tested by an examination of the cases, many of which were conducted under every disadvantage."

Dr. Hastings having thus submitted a certain number of cases to the inspection of the Profession, as corroborative of the above assertions, it is the duty of the Reviewer to study these carefully, for the purpose of ascertaining what deductions may legitimately be drawn from them. We shall,

therefore, give a brief analysis of the new cases introduced into the present edition. We prefer applying our attention to these, because we are told that those amongst them, offered by Dr. Hastings himself, are selected from a very considerable number that he has treated since the appearance of the former edition; and the remainder are furnished by different physicians, who state that they have had experimental proof of the beneficial effects of the naphtha treatment. These cases are sixteen in number. In the first case, the naphtha does not appear to have been of any use. The symptoms and physical signs of the second case are not described, and therefore do not afford any materials for judging. The third describes a case of marked phthisis in the stage of induration with cavities. It is not mentioned that there were any moist rales, nor is the age of the patient given: treatment commenced on July 3rd, 1844; the last note was dated April 2nd, 1845, at which time the patient was much improved. Case 4th, aged 34, of the same nature as the former; the patient was the same kind as the former; improved under the use of naphtha, but was subject to intercurrent attacks of bronchitis, which rendered it necessary occasionally to intermit the medicine, and give tartar emetic. Case 5th, aged 19, with evidences of induration; naphtha did good while there were no rales, but when a crepitus set in, it had to be discontinued; after its disappearance, the naphtha was resumed with benefit. In case 6th, aged 11, the medicine produced no obvious advantage. Case 7th, well-marked induration, which disappeared under the use of the naphtha; no moist rales are mentioned. Case 8th, aged 29, one of pulmonary induration, succeeded by dry, bronchial respiration: general symptoms improved under the naphtha treatment. Case 9th, the amount of improvement was estimated by Mr. Hutchinson's instrument for measuring the quantity of air inspired: as the value of this instrument remains to be proved, we can draw no deduction from this case. By a typographical error, there is another 9th case, in which there was bronchial respiration below the left clavicle, accompanied by dry, crackling rale, and dulness on percussion: the patient is stated to have been cured; but as we never met with, nor can imagine the possibility of such a stethoscopical combination as that described, we prefer putting this case aside. The 10th case is described by Mr. Austin: it was aged 36, and presented the signs of advanced induration; there is now only to be met with the evidences of occasional pulmonary catarrh. The 11th case is by Dr. Brown, and is represented to have been an example of phthisis pulmonalis of eight or nine weeks' standing, in which already

there were all the signs of extensive pulmonary solidification; and after the lapse of a few days, evidence of tubercular softening set in: yet in six weeks, by the employment of naphtha, the patient was perfectly cured! We believe this to have been simply an instance of pneumonia of the upper lobe, and that the returning crepitus was mistaken for the signs of softening. The 12th case is recorded by Dr. Buxton; it seems to have been one of phthisical predisposition without physical signs: it got well. The 13th case is described by Dr. Hopkins: a lady, aged 29, had a violent attack of pleuro-pneumonia in November, 1841, immediately subsequent to her confinement: she recovered from this; when, in October, 1843, she again became pregnant; and, in three months, phthisical symptoms set in: placed under the care of Dr. Hastings, she went through her accouchement favourably, and in April, 1845, was considered quite well. Case 14th was one of thoracic deformity in combination with phthisical symptoms; but from paucity of details is useless for our purpose. The 15th case presented the signs of pulmonary solidification, and was diagnosed to be tubercular by three eminent stethoscopists; it is improved, but not cured: this case was reported by Mr. Wilson. The 16th case is described by a medical gentleman whose name is not given, but who is ready to reply, it is stated, to any private communication: it commenced with head symptoms; after some time the patient was observed to have a short, tickling cough, and to labour under clammy perspirations. Upon being examined stethoscopically, pectoriloquy was discovered above and to the left side of the right mamma; the respiratory murmur loud and harsh over the whole chest; sound on percussion duller below right clavicle; pulse 108. He was placed under the naphtha treatment in April; and in July, the rational symptoms are stated to have entirely disappeared; pulse 64; pectoriloquy less evident. In September he died from some accidental cause, when small tubercles were found in the summits of both lungs, as well as a number of small cicatrices, some of which were in the site in which pectoriloquy had been audible. We must say, that the latter coincidence occurred very opportunely for the credit of the physician; but it is not very likely that pectoriloquy could have been produced in July by cavities which had healed, and formed small cicatrices, by the following September.

From the foregoing sketch of the sixteen new cases contained in the present edition, which is necessarily very concise, it may be seen that seven of these cases do not afford us any satisfactory elements for forming a judgment on the curative

powers of naphtha. Five cases are stated to have been improved by the employment of this medicine, but not cured; and four are *alleged* to have been cured. It is remarkable that the five cases which have been improved by its use, were all examples of pulmonary induration, in some instances complicated with cavities, and without moist rales. We conclude that pulmonary induration existed, because the physical signs described are those of dulness on percussion; hard, rough respiration of a bronchial character, accompanied by bronchophony, and increased loudness of the heart's sounds under the clavicle, with falling in of the thoracic parietes; but it is possible that these signs were not produced by accumulated tubercles, but by the indurated condition of the lungy substance. Now we have often remarked, that when phthisis has advanced to this stage without the general health having much participated in the disorder, it is very apt to become stationary even for considerable periods, or the patient may seem for a time to have obtained a new lease of life; and this is especially the case when there is no gargouillement, or cavernous rale audible, which, we take for granted, was the case in all the instances alluded to, as there is no mention of liquid rales having been heard. We are therefore inclined to throw aside these five improved cases, inasmuch as the cessation of the symptoms might have occurred if no naphtha had been exhibited.

Of the four cases alleged to have been cured, one was an example of what Dr. Evans calls phthistical predisposition, and what Dr. Henry Kennedy considers to be climacteric disease of the young: there were no physical signs, and there may have been no tubercle. Two of those cases were well-marked examples of induration; and it is alleged that, under the use of naphtha, the dulness on percussion, and the peculiarities of respiration, &c., disappeared. It may have been that these were mere examples of pneumonic solidification; although, if the cases are honestly detailed, it is very difficult to believe so. And the fourth case, that described by Dr. Hopkins, and which occurred in the person of his own sister, can scarcely be considered as other than an example of cured phthisis.

We confess that we have examined Dr. Hastings' book with more than ordinary scrutiny, because, professing to teach the method of successfully treating such a disease as phthisis pulmonalis, it comes to us in very questionable guise. The ordinary expedients of book-making have not rendered this volume more attractive in our eyes. But we rise from its perusal with the persuasion that the medicine which it is its object to recommend, is one of considerable power; and that

pyro-acetic spirit is likely to prove of some advantage in the treatment of phthisis.

It may be gleaned from the analysis given of the cases (but it may be well to state more distinctly), that any evidence of existing inflammation is contra-indicative of the exhibition of pyro-acetic spirit. The dose is usually twenty drops, three times a day.

A Memoir on Amputation of the Thigh at the Hip-joint (with a successful Case). By WILLIAM SANDS COX, F. R. S. &c., &c., Senior Surgeon of the Queen's Hospital, Birmingham. London: folio, 1845, pp. 47.

THIS is, without exception, the most patrician medical publication we have ever seen. Beautifully printed on very fine paper, in a good clear type, double leaded, with nearly four inches of margin, and illustrated by well-executed coloured drawings of large size, and woodcuts intercalated in the text, it looks much more like a drawing-room album or annual, than a serious medical brochure on so unpoetical a subject as amputation at the hip-joint. We must confess that we are very far indeed from feeling the slightest tinge of admiration for such literary dandyism. The great blessing conferred on mankind by the art of printing was the facility which it gave us of multiplying copies of books with great rapidity, and at a very low cost; but if works not intended to amuse but to instruct be brought out in such a style of elegance as enormously to increase the cost to the reader, whilst it has no tendency to make the author's views better understood (and Dr. Cox's plates are very much of this character, being quite superfluous), we ought to look on all such meretricious ornament as indicative of a decidedly retrograde movement—an approach to the barbarism that prefers a looking-glass or a string of beads to a hatchet or a blanket—a tendency which should be firmly and perseveringly opposed by all who take a real interest in the onward march of mind. Indeed it is only with regret that we have observed the daily increasing tendency to extravagance of this kind among our neighbours on the other side the water. Publisher vies with publisher, not in cheapness but in expense, and the real interests of science are completely forgotten amid the contests of typographical amateurs and artistic authors. Knowledge that has a tendency to abridge the sufferings of our fellow-creatures should be as extensively diffused as possible; and therefore

it is that we so strongly advocate a cheap, and consequently widely-extended, medical literature.

We regret that our duty as journalists compels us to notice in Dr. Cox's publication another circumstance which places it in a category, really but one remove from a newspaper advertisement, viz., the publication, in the commencement, of a long and most aristocratic list of *non-professional* subscribers, which occupies no less than eight pages of a book consisting of forty-seven altogether. Now what, we would wish to know, have such persons to do with the subject of amputations? Are they to constitute a sort of jury to determine the propriety or expediency of the operation at the hip-joint, or of the circumstances and manner of performing it, that it has been thought necessary to take such a very expensive mode of informing them that Mr. Cox had performed with success an operation which, in other hands, had so frequently failed? Of all the admirable and admirably drawn-up resolutions agreed to by the medical congress which recently met in Paris, there is none in which we more thoroughly acquiesce, or which more fully embodies the sentiments entertained by the School of Dublin at least, than that which discountenances medical advertisement of every kind. Feeling quite certain that all scientific and useful purposes would have been far more fully attained, had Dr. Cox modestly inserted his case in some of the periodical medical publications of the day, instead of sending it forth in its present form, as a gaudy and expensive monograph, and had the subscribers' money been appropriated, as they doubtless intended it should, to the patient's benefit, instead of being thus squandered on the encouragement of typography or the Fine Arts, we should have been much better pleased.

Passing now from the *accidentia* (upon which we regret to have been obliged to dwell so long), to the *proprium* of Dr. Cox's brochure, we find first a good historical sketch of the operation at the ilio-femoral articulation, from the time of Moraud, its first proposer, down to the present period; from which it appears that the statistics stand thus: eighty-four cases are recorded as having been operated on, and twenty-six only have succeeded. We have reason to know, however, from unrecorded operations which we ourselves have witnessed, that the mortality is even greater than what is here represented; we always hear of the successful cases of the kind, but men are not so anxious to publish their failures.

After a very brief enumeration of the causes which may render amputation at the hip-joint our only resource, and

a short sketch of the anatomy of the parts concerned in the operation, we have a chapter in which the various methods of performing it, which have been proposed by different surgeons, are successively passed in review. The following is the method employed by Dr. Cox:—The patient being placed on the edge of the table, with the limb to be operated on slightly flexed, Segnoroni's arterial compressor (which is but a pair of calipers moveable by a screw) is employed to arrest the flow of blood in the external iliac. The operator, then, standing on the outside, enters the knife (which is narrow, double-edged, and about twelve inches long) a little below the anterior superior spine of the ilium, and passing it across the neck of the femur, parallel with, and a little below Poupart's ligament, causes the point to emerge about an inch below the margin of the anus. By then carrying the knife downwards and forwards, the anterior flap, somewhat more than three inches in length, is rapidly formed, and the mouths of the vessels are secured by the hands of an assistant. The limb is now to be depressed and rotated outwards, the capsule and ligament divided with the knife, and the head of the bone dislocated: afterwards carrying the knife through the joint, then close along the posterior surface of the femur, for about three inches, and lastly, by cutting downwards and backwards, the operation is completed. So far, however, as may be judged from trials in the dissecting-room, we are convinced that no method admits of such easy and rapid performance, or produces such good results, as that devised by M. Lenoir. The knife is made to enter on the inside, and is passed behind the vessels, and through the front of the capsular ligament. As soon as it has cut its way out, forming the one large anterior flap, which is instantly raised, and the vessels compressed by an assistant, the limb is rotated and depressed, and the head of the bone at once springs from the socket. It then only remains to cut down on the joint *from behind*, over the head of the bone, and the operation is finished. A few trials enable one, with certainty, to transfix the joint, so as to divide sufficiently, in so doing, the capsular ligament. In one case which we saw operated on by the able surgeon above alluded to, we are certain that the purely operative part did not occupy twenty seconds. On this occasion the hæmorrhage was restrained by the best of all arterial compressors, the fingers of an intelligent assistant(a).

(a) The case alluded to was that of a young man of about sixteen, operated on at Necker Hospital, in the winter of 1843. The patient was much

The patient operated on by Dr. Cox was a sempstress, named Eliza Powis, aged 23, who, fourteen years previously, in London, had undergone amputation of her left leg above the knee in consequence of disease of the knee joint. Three months after her discharge on this first occasion, ulceration took place around the cicatrix, which, at different times afterwards, partially, but never completely, healed up. After the lapse of six years, the integuments became indurated, and painful, fungous growths began to shew themselves, and, at length, eight years after the operation, she was compelled to have recourse to surgical aid.

On admission to the Birmingham Infirmary, the integuments, for about three inches anteriorly and four and a-half posteriorly, above the extremity of the stump, were found to present a dull white, glazed, and corrugated appearance, and were of cartilaginous hardness, like an old cicatrix, interspersed with livid and extremely sensitive fungous growths projecting nearly half an inch from the surface, and bleeding slightly on being touched. There was no other appearance of local or constitutional disease; but we are told that the patient "states that her general health has been good, and that her catamenial periods have occurred regularly every five weeks; that her father died asthmatic, and that, a short time previous to his death, a tumour, of what character she knows not, appeared in his axilla; that her mother died in a decline, as also did her only sister, and that she has three brothers living who enjoy good health."

Disarticulation having been resolved on, it was performed before a numerous crowd of spectators, on the 1st November, 1844. Although not more than five ounces of blood were lost, great depression followed the operation, but it was relieved by the administration, in the first instance, of half a pint of wine, and afterwards by a mixture consisting of Bicarb. Potass., Tr. Hyosey., and Mist. Camph., given in effervescence with lemon juice every three hours. The pulse, which on the patient's being put to bed was 90, rose in the evening to 100; the next day it was 110, and the following 120, which rate it maintained during four days, when it began to be less frequent, and for a few days more continued at about 90. It then rose again, and, at the last report, on the 26th November, it is stated to be 100. The patient went on well; a little purgative medicine, with an occasional seda-

emaciated, and he died during the night following the operation, although not more than four ounces of blood had been lost.

tive, being almost the only treatment required; and on the 5th of February, 1845, she was discharged, being then able to walk on crutches, and the wound completely healed. She was last heard of on the 12th August, six months after the operation, when she was in the enjoyment "of robust health."

On dissection of the amputated limb, the bone was found to be healthy: "the muscles presented a peculiar granular appearance, were softened in texture, intersected with fibrous bands, and, with the exception of the muscles inserted into the trochanters, appeared to have undergone fatty degeneration:" the integuments, to the depth of from three-eighths to five-eighths of an inch, were hard, cartilaginous, of a pearly white colour, and, under the microscope, presented numerous spindle-shaped bodies, but we are not told whether with or without central nucleoli.

Dr. Cox justifies his having had recourse to so severe and dangerous an operation by the fact of the increase of the disease, in spite of treatment continued during two years, and by the constant suffering of the patient. We feel confident that few surgeons in this city would recommend the use of the knife in a case without any very urgent symptoms, evidently springing out of a previous operation, and where there was good reason to suspect hereditary, or, at least, malignant disease, which, when it originates in the soft parts, is generally more to be dreaded than when commencing in other tissues. An operation in such circumstances rarely has any other effect than to suppress its external manifestation, and cause its development in internal organs. So far, however, the results are in favour of Dr. Cox's practice, but it will be very important to learn the after history of his patient, and we hope that she will not be lost sight of.

It is very interesting to inquire what is the real cause of the terrible mortality which has hitherto attended amputation at the hip joint. It is evidently not caused by hæmorrhage, since the quantity of blood lost in operations of this kind is usually extremely small, and is in no case nearly so large as often occurs in parturition and other circumstances. Neither can it arise from the mere section of large nervous trunks, since we know that even the spinal marrow itself may be divided without immediately fatal consequences; indeed we have no evidence to prove that the section of nerves is attended by anything more than paralysis (of sensation or motion), and its secondary consequences. Now when we examine the conditions under which life is maintained, we find that they

consist of a number of processes acting principally or altogether on the blood. Hence it follows, that a fixed and definite relation must always subsist between the quantity and quality of the vital fluid, and the phenomena of composition and detrition. If urine or bile, or carbonic acid, cease to be thrown off, the consequences are eventually the same as if oxygen or food be denied, the organic machine soon ceases to act altogether. If, however, the law of this relation were absolute, man, exposed as he is to the combined operation of agents which exert a powerful influence on the processes of organic life, could rarely subsist for any great length of time. To meet these casualties, his system is possessed of a power of accommodation, which is really one of the most wonderful facts in physiology. A particular vital process becomes impaired by some cause external to itself, and in the course of time the oppressed organ so completely accommodates itself to its altered circumstances, that it is now able, in like manner, gradually to surmount a second impeding cause acting in the same direction, and to the same amount as the first. Thus, a foreign body completely obstructing one bronchus, or pulmonary apoplexy affecting one lobe, may be followed by instant death, whilst a far greater amount of obstruction to respiration, effected in the slow and gradual progress of disease, may occasion so little distress as almost to escape observation altogether. We lately dissected, along with Dr. Mayne of this city, and Dr. Gerlach of Mayence, the body of a lunatic, who was not even suspected to have been labouring under any pulmonic affection, yet the entire of one lung, and about one-third of the other, was found completely useless, so far as respiration was concerned, from its presenting the very rare combination of tubercular deposition and gangrene of the lung(*a*). A case similarly illustrating the amount of obstruction that may be gradually formed without giving rise to urgent symptoms, was brought forward by Dr. Graves, at one of the early meetings of the Pathological Society; and many analogous instances might easily be adduced, in reference to the other organs. Now, let us apply these facts to the case of operations. Where a limb is amputated, not only is a certain amount of the circulating fluid lost by evident hæmorrhage, but a loss to a much greater amount is sustained by the removal of the blood, which cannot be made to flow from the vessels of the amputated part, whether

(y) Rokitanski, if we recollect aright, never met with this combination of tubercle and gangrene in the course of 14,000 dissections.

tumour or limb. In amputation at the hip-joint, we thus abstract from the circulation one-fourth or one-fifth of the entire quantity of blood in the body, yet the functions of the lungs, the liver, the kidneys, &c., continue to be performed precisely as if no such diminution of the quantity of blood to be acted on had taken place. The consequence must be, that the blood returns to these organs before it has fully undergone the changes requisite to fit it for their action, and the disproportion increasing at each round, death is the speedy consequence. It is to be borne in mind, too, that not merely have the lungs, &c., suddenly to act on a much smaller quantity of blood than that for which they were intended, but also the diminished quantity of blood that passes through them has not undergone those changes which would have been effected in the capillary circulation of the part of the body which has been removed. In perfect accordance with the views here proposed, we find that the hip-joint operation is rarely attended by an immediately fatal result, as might be expected if death were caused by mere nervous shock, but that usually the patients live several days, and very rarely expire before the expiration of less than twenty-four hours. In two out of the three successful cases which have occurred in England, and in several of the continental ones, *amputation above the knee of the same side had previously been performed*, so that the element of time was introduced, and the organs were thus gradually enabled to accommodate their action to the altered state of the circulation. In many other recorded cases, caries or necrosis, with abscesses and disorganization of more or less of the removed member, had brought about a somewhat similar state of things; and all the other instances occurred in men who, receiving a gunshot wound, or some similar injury, in the full vigour of robust health, were enabled to bear up against morbid influences, which would have speedily proved fatal to others differently circumstanced in this respect.

Dr. Cox's case is a most interesting addition to our facts in surgery: and, as we have already said, the only fault that we have to find with his publication is, that it is far too splendid for a medical work. We hope that he will not lose sight of his patient, and that, on some future occasion, he will lay before the public the more remote consequences of the operation, as we have very strong apprehensions that the disease will return, and attack parts which cannot be reached by the knife.

A practical Treatise on abdominal Hernia. By THOMAS PRIDGIN TEALE, F.L.S., Surgeon to the Leeds General Infirmary. London, 8vo., pp. 383.

THE volume before us is a well-arranged, systematic treatise, and seems calculated to form not only a text-book for the student, but one of reference to the practitioner; embodying, as it does, long established maxims regarding the nature, diagnosis, and treatment of ruptures, together with most of the latest improvements in this important subject.

The circumstance which gave rise to the composition of this treatise is highly creditable to Mr. Teale, who is favourably known to the profession through the pages of the *Provincial Medical and Surgical Journal*. The work is well got up and illustrated by wood-cuts.

The subject of abdominal hernia has been so ably treated by Sir A. Cooper, and Mr. Lawrence, that we might suppose it to be well nigh exhausted; yet much useful information is to be found in recent Continental publications, as well as in our own periodical literature. Mr. Teale has availed himself largely of these sources of information, and gives the result of his inquiries in a systematic form, confirmed by his own experience.

The first two chapters are taken up with the anatomy of the walls of the abdomen and the hernial apertures; the third, which is an interesting one, treats of the formation of the hernial sac, and is illustrated by wood engravings from Cloquet. In the fourth we are told, that "there are none of the abdominal or pelvic viscera, except the pancreas and duodenum, which have not occasionally contributed to the formation of hernial tumours. The parts most frequently protruded are the ileum and the omentum." Some very interesting remarks on herniæ, in which the cæcum forms the principal part of the protrusion, follow, in which he shews how these ruptures are produced, and the cause of their being irreducible when they attain a large size, namely, the descent of the meso-cæcum, which binds the intestine in its new position; but we are aware of another cause which has operated so as to render an insuperable barrier to the return of the cæcum (though laid bare, and the stricture divided), when the one alluded to by Mr. Teale did not exist; and that was the impossibility of pressing out the gas with which the bowel was distended, owing to the existence of the ileo-cæcal valve, and the peculiar formation of that portion of the intestine.

The observations upon inflamed irreducible hernia, and upon obstructed irreducible hernia, are very valuable. He says :

“The facts which have now been adduced are sufficient to prove, in the first place, that dangerous if not fatal obstruction of the bowels may occur, in consequence of the intestine being fixed in an angular or distorted form, by adhesions between the protruded viscus and the sac; and secondly, that such a state of obstruction may sometimes be relieved by dividing these adhesions.”

We were much pleased with the description of strangulated hernia, and quite agree with the Author—

“That the structures immediately surrounding the seat of constriction, perform in most instances a merely passive part.”

The diagnosis of the seat of stricture is of much practical importance, but is one of difficulty. The stricture may be formed by parts external to the sac, or the sac itself, or by its contents.

In most species of hernia, the hernial apertures are frequently the seat of stricture; the neck of the sac commonly forms the stricture in old herniæ, particularly in such as have been treated by trusses; or the stricture may be formed by the body of the sac. Scarpa, Pott, and Lawrence are adduced as witnesses to this fact. A well-marked case of this kind occurred to ourselves a few years ago, in which the stricture was formed by a contraction of the sac forming a band of a fibrous structure, between its superior and middle third. The portion of intestine above the constriction was soft and reducible, that below it was thick and fleshy, highly vascular, and coated with lymph, and a deep depression, formed by the stricture, separated these two portions of the sac;—this stricture being divided, the protruded intestine, together with some fatty, thickened omentum, was returned into the abdomen, and the case did well.

The omentum may produce stricture in various ways;—a fissure and an indurated band of this substance have been known to strangulate a portion of intestine.

The possibility of the co-existence of more than one stricture should be borne in mind. We recollect a case in which the overlooking of this occurrence led to fatal consequences; we would therefore recommend the operator, having reduced the protruded parts, to introduce his finger into the abdomen, and, carrying it fairly round the internal ring, ascertain that the neck of the sac is perfectly free. The pathological effects

of strangulation, both on the intestine and the peritoneum, are well described, but useful knowledge of those morbid changes can be only acquired by actual observation.

The symptoms of strangulation are arranged in two groups: one owing to, or depending upon, obstruction of the intestines; the other resulting from congestion or inflammation of the protruding parts, and their envelopes. The symptoms depending upon obstruction are, constipation, vomiting, eruptions, cholicky pains, flatulent distention of the bowels, sense of constriction round the waist, tension of the abdomen, and, ultimately, tenderness on pressure.

Those produced by morbid changes in the protruded parts and their envelopes are, pain and tension in the tumour, and, in the advanced stages of strangulation, redness and tumefaction of the skin. In addition to these, symptoms of general peritonitis set in; the abdominal muscles become rigid, the abdomen is hard and tense, and becomes painful on pressure, and the patient lies on the back, with the legs drawn up. The student, however, is not to expect to find these symptoms always present where peritonitis exists. We have witnessed two cases of patients dying of peritonitis, where in one instance there was an extensive effusion of lymph, and in the other purulent matter had formed, and yet in neither were tension or tenderness of the abdomen present.

In the chapter on the treatment of reducible hernia, we have an account of most of the trusses in use at the present day, and also the means employed for effecting the radical cure of hernia. Of the latter, we may say we are not disposed to try any of them: first, because they are attended with serious accidents, and may prove destructive to life; and secondly, because we have found the palliative treatment (when well directed) to succeed even in cases apparently hopeless.

We consider it an omission to find so little said on the way in which the truss should be applied, so that the viscera may be retained, and the neck of the sac, no longer distended, permitted to contract and ultimately close. The late Professor Colles used to insist upon the necessity for the pressure of the pad of the truss being made not only on the external ring, but principally on the internal one, and also on the canal between the two rings.

This important principle is best carried into effect by the truss for which Mr. L'Estrange, of this city, has taken out a patent, the efficacy of which has been attested by many eminent surgeons.

In the eleventh chapter we come to the most interesting part of the subject—the treatment of strangulated hernia. The means resorted to for the replacement of the protruded parts within the abdomen are, the taxis, or the operation with the knife. Under the head of the first, the risk of using much force in endeavouring to reduce the protruded parts is pointed out, as well as the danger which occasionally, though rarely, results from manual pressure, viz., the return of the hernia in mass, while still strictured by the neck of the sac; but the great evil very properly laid to the charge of the taxis, is the delay and loss of time it may occasion. The cases in which it is inadmissible are, if the omentum or intestine be gangrenous, in an inflamed state of the hernia, and where there is a sensitive condition of the tumour.

The mode of performing the taxis is then pointed out, and the adjuvants, or means for increasing the safety of this proceeding are enumerated in the following order, with remarks:

1st. Blood-letting. This, in suitable cases, is looked upon as the most powerful adjuvant; in which sentiment we agree, as we have had cases in which the hernia resisted manual pressure, yet returned spontaneously after venesection.

2nd. The hot bath, at 100° Fahrenheit, raised to 108° or 110°, and kept at this until faintness is induced. Where this can be obtained, it ought to be employed, but its advantages are not so great as to compensate for the evils which may arise from any considerable delay in procuring it.

3rd. Cold applications, either by a stream of water, or the evaporation of Æther, may be tried, but they are not much to be depended upon.

4th. Tobacco. The infusion is generally used; it is prepared by macerating, for fifteen minutes, one drachm of tobacco leaves in a pint of boiling water. Half of the liquid, when strained, may be injected into the rectum of an adult, and the remainder in half an hour afterwards, if necessary. We have seen quarter the quantity injected at a time; it is certainly a safer practice, and was successful in one of the two cases in which we saw it tried. The dangers of the tobacco injection have been pointed out by Sir Astley and Mr. B. Cooper, and fatal cases are related by Desault and Velpeau(z), nor can

(z) Velpeau saw the tobacco injection successful in one case, but in one only. He tried it himself in twenty-five cases, at least, without any advantage.

we ourselves say much in its favour. A friend of ours assured us, that he had known it used in seventy-four cases, and that in not one of them had it been of the slightest use. The collapse, or *oppressio virium*, which it produces, compels the surgeon to postpone the operation, and much valuable time is thereby lost.

5th. Opium. Of this drug, the author says: "Although it may not aid by relaxing the stricture, there is sufficient evidence to shew that it does occasionally exert a beneficial influence in promoting the reduction of hernia." Morphine is not alluded to; but having tried it ourselves, as recommended by Dr. Bell (*London and Edinburgh Monthly Journal of Med. Science*, Sept. 1841), with success, we think it right to mention it. We gave half a grain of the muriate in half an ounce of water, and repeated the dose in half an hour, so as to produce prostration, and general relaxation of the system.

6th. Purgatives are very properly reprobated, and their injurious effects pointed out. Clysters, however, copiously administered, more especially when introduced after the method of Dr. O'Beirne, are beneficial in procuring a free discharge of any gas and fæces contained in the lower part of the intestinal tube.

7th. Dr. O'Beirne's proposal, "to introduce a long flexible tube through the rectum into the colon, and retain it in that situation, until the flatus contained in the large and small intestines, and ultimately in the strictured intestine, is allowed to escape," meets with its due meed of praise. No mention is made of the German proposal, to apply exhausted cupping-glasses to the abdomen, nor of the plan of holding the patient in an inverted position, advocated by some, both which proceedings we have tried, but have not seen benefit derived from either.

When no rational hope of relief from the taxis can be entertained, it becomes necessary to operate: the two modifications of the operation for strangulated hernia are then discussed, and first that without opening the sac.

Having surveyed the danger of opening the sac, exposing and handling the protruded viscera, and considered the practicability and propriety of the operation, the Author says:

"My experience certainly justifies me in recommending this mode of operating whenever it is practicable, provided the necessary precautions are taken against incurring the evils to which the operation, when carelessly performed, might be exposed; and in order to avoid these dangers, it is important to be able, in the first

place, to recognize the symptoms which indicate the occurrence of gangrene, or of a state verging towards it; and secondly, to guard against employing an improper degree of force for the purpose of replacing the hernia after the stricture has been divided.

He concludes, that this operation should be attempted in most cases of large herniæ; in many herniæ of middle size; and in but few small herniæ, unless in the earliest stage of strangulation. For our own part, we have been in the habit of trying, in cases of recently strangulated hernia, when the operation was required, to divide the stricture, and return the protruded parts without opening the peritoneal sac. We have, however, met with only one case in which we have succeeded; it was one of femoral hernia, the stricture was formed by the cribriform fascia, and the patient recovered speedily without a bad symptom.

The operation involving the opening of the sac is well described, and the suggestions for the treatment of the intestine, when hyperhæmatic, when gangrenous, when perforated, indented from the stricture, or when adherent, are well entitled to a careful perusal.

Some diversity of opinion exists with regard to the treatment of protruded omentum, when it is large in size and thickened, as to whether it should be replaced, left in the sac, or excised. If replaced, it may soon become gangrenous, owing to its low degree of vitality, or inflammation may be excited in it by exposure to the atmosphere and mechanical injury.

In a case we saw where the thickened omentum was the size of a pear, the stricture having been divided, and the protruded intestine returned, it was left in the sac according to the recommendation of Hay, Desault, and Chopart; but inflammation soon set in, which speedily propagated itself to the peritoneum, by which the patient was lost; if, then, the quantity of omentum is so great, or in such a condition as not to be returned, we would certainly advise its removal by excision, the arteries being carefully secured by ligatures previously to returning the truncated part.

In speaking of the accidents of the operation, the necessity of securing a bleeding artery by ligature is very properly insisted upon; "if the vessels cannot be brought into view, the wound is to be enlarged sufficiently to expose it." The importance of this proceeding is manifest, when we consider the dangerous consequence of even a slight effusion of blood into the cavity of the peritoneum.

The obturator artery, when it arises from the epigastric, is endangered in the operation for femoral hernia. To avoid this

accident, "the stricture need not be incised for more than one or two lines, and the incision is to be directed upwards, instead of towards the pubis." Nothing is said of the manner of making the incision. We think it is of great importance to make the bistoury act as a wedge and not as a saw, as in this way the artery, owing to the elasticity of its coats, may be carried before the edge of the knife, when the firmer and tenser structures are giving way. This fact was exhibited in a case of which we made a post mortem examination; the obturator was found uninjured, stretching across the gap or nick which had been made in the neck of the sac, and must have been pushed out of the way by the knife; had a sawing motion been used, the artery must have been wounded.

In speaking of the after-treatment, we are very properly cautioned against the early exhibition of purgatives. The ordinary antiphlogistic treatment is recommended for peritonitis; but we were much surprised to find no mention made of the administration of calomel and opium, on which we place so much reliance in this country.

A variety of means for the cure of intestinal fistula, or artificial anus, are given; but no allusion is made to the ingenious contrivance of Mr. Trant, of this city, by which he succeeded in curing a very bad case of this affection by direct pressure on the projecting ridge or eperon.

The complications of oblique inguinal hernia are well worthy the attentive consideration of practical surgeons. A case related by Wilmer is alluded to, in which this affection co-existed with hernia of the tunica vaginalis, and both herniæ were strangulated. The latter was released by operation, while the former was overlooked; and the real character of the disease was only ascertained on dissection. In a case we lately witnessed, where the hernia, which was small, was caused by violence, the operation was performed on the third day of the strangulation, after the taxis, assisted by a variety of other means, had failed. On opening into the sac, which was very much thickened, it was found to contain nothing but dark blood; the finger was passed into the cavity of the abdomen, and the ring was ascertained to be perfectly free. It was then supposed that the intestine had passed up during or immediately before the operation: the patient expressed himself to be relieved;—the symptoms, however, of strangulation and peritonitis continued for six days, when he died. On a post mortem examination, it was discovered that the intestine had come down by a new opening (by direct descent) and lay external to the old sac, in a state of sphacelus.

As we have exceeded our limits, we must pass over a good deal of interesting detail concerning other forms of rupture; and this we do with the less reluctance, as we can recommend the book to our readers as a comprehensive practical treatise on the subject of hernia.

De La Folie, considérée sous le Point de Vue Pathologique, Philosophique, Historique, et Judiciaire, depuis la Renaissance des Sciences en Europe, jusqu'au Dix-neuvieme Siecle, &c. Par L. F. CALMEIL, Docteur en Médecine de la faculté de Paris, &c.—à Paris, Bailliere, tom. ii.

Of Insanity, considered in a Pathological, Philosophical, Historical, and Judicial point of view, from the Revival of Science in Europe to the Nineteenth Century. By L. F. CALMEIL, M. D., &c.

THIS is a remarkable and well-timed book, which, though containing but little original matter, is a good record of some singular circumstances in the history of man. Professing to be a history of madness, it is essentially a collection of facts relating to the nervous epidemics of Europe in the fifteenth, sixteenth, and seventeenth centuries; and the author has availed himself of important documents, which heretofore we have known but by name.

The occurrence of nervous affections, in an epidemic form, has been recognized from an early period: but it was reserved for the fifteenth century to exhibit the disease with all the virulence of the first outbreak of an epidemic; and nothing is more curious than to observe the generic or common character which, as it were, ran through the different epidemics, or the sporadic cases of the disease. The Protean characters of mental and convulsive malady, were produced in appalling contrast and confusion. Religious ecstasy and its opposite the worship of the Devil, hysteria, catalepsy, convulsions, homicidal monomania, lycanthropy, and other modifications of the disease, spread over Europe, unchecked by the most stringent laws, by the most sanguinary executions, and by every species of punishment which power could invent or ignorance employ. The belief in witchcraft became universal; and we, who only witness isolated examples of hysterical mania, or are amused with the deceits of Mesmerism, can have but a feeble idea of the scenes enacted from the fifteenth to the seventeenth centuries.

The general character of this disease was a belief in demoniacal influence, inducing every description of crime, accompanied more or less with a convulsive state, which appeared to dehumanize the unfortunate sufferers.

Yet whoever has witnessed cases of hysteric mania, can have little difficulty in understanding how, at a time of great public ignorance, such a disease would be attributed to demoniacal possession. To see a young female, whose health has been hitherto excellent, and whose character has never been sullied or suspected, suddenly changed in every moral and physical condition; becoming an almost ferocious maniac; tortured by extraordinary convulsions; uttering piercing shrieks, and torrents of filth and blasphemy; now fixed and insensible as marble; now exhibiting the most singular exaltation of every sense; singing, praying, cursing, and deriding almost in the one breath:—is indeed to witness the perfection of human misery. And when these phenomena were not understood—when physicians believed them to be the work of malignant spirits—when they affected whole communities, and spread as it were by contagion—there is nothing more natural than that they should be attributed to the interference of the author of evil, and dealt with accordingly.

The origin of moral epidemics is perhaps more intelligible than that of the physical; yet in seeking for their causes, we must avoid the error of attributing them to any single or isolated circumstance. They are great natural phenomena; the most obscure, perhaps, of all, and arise from combinations infinitely numerous and various. Indeed, in examining the operations of nature, which are followed by great results, we are drawn to the conclusion, that in all, the sources are multifarious, as if the great First Cause preserved the character of unity to himself alone. Our author does not attempt to explain the outbreak of the disease, and his introductory chapters are but a sketch of facts relating to mania, with which we have long been familiar.

In examining this question, we naturally turn to the social and political state of Europe during the middle ages, and find abundant cause for epidemic disease, as well moral as physical. The three great disturbing agents of the social state, religious enthusiasm, war, and bad government, were then in full operation. In medical language, the first might be called the exciting, the others the predisposing causes; and the leading manifestation of this state of the public mind, was the Crusades. But the same feeling which covered Europe

with monuments of ecclesiastical architecture, which developed a new era of sculpture and painting, which fostered the spirit of chivalry, till it grew to an abiding principle, led also to other results. Great religious communities of both sexes were formed, and adopted the rules of the strictest asceticism. The twelfth century was the time of Abelard, of St. Bernard, and D'Arbrissel. Then the social position of woman was first fully recognised, and by this anti-feudal revolution, she was everywhere brought into new and striking positions. The multiplication of religious establishments continued; public and private penances were enjoined and practised; and the minds of the people were impressed by miraculous influences. And thus, every circumstance which could favour the imaginative tendencies being in full operation, it is not wonderful if the disposition to nervous diseases should have been extensively induced.

But other causes were in operation: the laity were generally ignorant, the middle classes were depressed, and for the first time, struggling for freedom; the nobles were robbers, the people slaves, and the governments weak and corrupt, so that intestine wars, with famine in their train, might be said to be unceasing; and, to crown all, the great plague of the fourteenth century crossed the Alps in 1348, and, spreading over Europe, destroyed millions in its path.

As most of our records of demonomania refer to its prevalence in France, it is interesting to reflect on the condition of that kingdom during the fourteenth and fifteenth centuries. Speaking of the English subjugation, Mr. Hallam declares, that there was no affliction which did not fall on France during that miserable period. The flower of her chivalry had fallen at Crécy, Poitiers, and Agincourt; and the English, flushed by conquest, were in the heart of the kingdom. The king was a prisoner, and the intrigues of Charles the Bad fomented sedition in the capital; bodies of mercenary troops pillaged the country, and committed every atrocity;—and when we add to this picture, the effect of the desolating pestilence, or Black Death, we are not to wonder that men longed for the end of the world, and fixed it at no distant time(*a*). It was in

(*a*) A recent author observes, that “the plague found Germany in one of her gloomiest fits of mysticism. The greater number of the population had long been without the consolation of the Sacraments of the Church. To please the King of France the Popes of Avignon had lightly plunged Germany into despair. All the countries which had acknowledged the titles of Louis of Bavaria had been laid under interdict; and Strasbourg in particular, which remained faithful to the Emperor, even after his death, knew no remission of the pontifical sentence. There was no mass, no viaticum, and

1360 that Petrarch visited France for the second time: "I could not believe," he says, "that this was the same kingdom I had once seen so rich and flourishing. Nothing presented itself to my eyes but a fearful solitude, and extreme poverty; lands uncultivated, houses in ruins. Even the neighbourhood of Paris manifested everywhere marks of destruction and conflagration, roads over-grown with weeds: the whole is a vast solitude."

Thus was the ground prepared for outbreaks of nervous disease; and accordingly we find the dancing mania spreading from Germany into France in 1374. And if to this we add the extravagancies of the Flagellants, we can well understand the manifestation of nervous disease under the peculiar form of demonomania.

Were we to form our idea of the dancing disease from ordinary cases of chorea, we would have but an insufficient notion of the matter. It was a great epidemic of a severe nervous malady, of which the present St. Vitus's dance is but the feeble echo. We see something like it in certain cases of hysteric mania and convulsions. It was characterized by perversion of religious feeling, general excitement, and convulsive action; and, when the semi-conscious state of the patients is considered, we can understand how natural it was that they themselves should believe they were instigated by Satan. The skill of the physician was at nought, and nothing but the exorcism of the priest could prevail. The disease insensibly became more a mental malady, and lost the peculiar characteristics of chorea; and thus for a long period the sufferers were handed over to ignorance and superstition. Notwithstanding the most sanguinary laws against witchcraft, the belief in diabolical possession became universal; the sick were held not only to be possessed by demons, but to be themselves heretics, and were committed to the care of the clergy, whose exorcisms too often aggravated every symptom. There can be little doubt that Paracelsus, in declaring that the disease proceeded from natural causes, drew the hostility of the Church upon himself.

"We will not," said he, "however, admit that the saints have power to inflict diseases, and that these ought to be named after them; although many there are who in their theology lay great stress on this supposition, ascribing them rather to God than to

sixteen thousand persons in this city alone were carried off by the plague, believing themselves lost to all eternity."—*Schmidt, quoted by Michelet in his History of France.*

nature, which is but idle talk. We dislike such nonsensical gossip, as it is not supported by symptoms, but only by faith, which is a thing whereon the gods themselves set no value(*b*)."

But we are not to wonder at the course adopted by the clergy, who only acted according to the light that was in them, and the general opinion of society. The dark ages, like clouds, still hung upon the horizon, and the knowledge of the nervous system, even to us so imperfect, was then a nullity. The great problem of physiology, the influence of matter upon the mind, still unresolved, was then undreamt of; and whether they looked to history, to the oracles of their faith, to the opinion of philosophers, or the writings of poets; or whether they were influenced by popular opinion, or oral testimony; they could not but hold that active and intelligent powers, some of a good, others of an evil nature, were placed between God and man. If the recluse, who declared that he was visited by saints and angels, was to be believed, so also should the sufferer, who asserted that Satan or his demons had been with him; and thus testimony, uncorrected by knowledge, became irresistible.

As the sufferings were not merely mental but corporeal, it was natural to attribute to the same cause symptoms apparently unconnected with physical or organic change; and hence the racking pains, the convulsions, the cataleptic seizures, and the whole list of neurotic sufferings, were placed in the same category.

But yet we find that some perception of the true nature of these maladies existed among the clergy. We read in the *Malleus Malleficarum*, that Nider, an appointed inquisitor, saw a young lady at Nuremberg, who believed herself to be possessed by the Devil. For four years she had separated herself from her husband, children, and friends, and the disease had resisted every moral and physical means that could be thought of. Nider examined her with care, and declared that the devil had nothing to do with her symptoms, which, in his opinion, proceeded from a melancholic disposition. He reassured her, and effected a perfect recovery. Nider relates other cases of the same kind, proving that he, at least, did not act on any exclusive opinion.

The most remarkable instance is that of the Prior Edecline, one of the Doctors of the Sorbonne (A.D. 1453). He had the boldness to declare and preach that the worship of

infernal spirits, of which so many believed themselves victims, was imaginary, and resulting from mental and bodily disease ; and he denounced the cruelty and ignorance of treating as a crime what was but a form of insanity. His eloquence and arguments, for a time, silenced his opponents, and even suspended the dreadful effusion of blood. Yet, as if by fatality, this courageous and right-thinking man, who promised to be the reformer of the time, was himself struck with the very disease, the nature of which he had so fearlessly declared. He was brought before the tribunal which he had denounced, and there admitted that he was a worshipper of Satan ; that he had frequented the meetings of sorcerers, where Satan presided in the form of a black bull ; that he had committed various crimes and abominations ; and that in his very preaching against the belief in sorcery, he had only obeyed the father of lies. His judges, influenced by his reputation and learning, decided that he was insane : he was not condemned to the stake, but lingered out the rest of his existence in the cell of a miserable prison.

We have already considered the state of France in the fifteenth century, and during this and the following century, it produced various forms of mental and convulsive malady. The disease occurred in epidemics and also sporadically, and was pursued with unrelenting severity by the law ; the torture and the stake being in unceasing requisition. In the department of the Jura alone, a single judge condemned three hundred persons to the stake ; and in Lorraine not less than nine hundred were executed. The disease spread over Germany, the Low Countries, Great Britain, Spain, and Italy. In Lombardy one thousand were burned in a single year. Nothing is more remarkable than the similarity of these mental delusions, so that, with a few exceptions, the description of one epidemic may answer for all.

Although the principal characteristic of the disease was the belief in diabolical possession, there were exceptions. Theomania, or religious ecstasy, was observed in some, while in others it took the more disgusting form of lycanthropy. Of the first of these forms, the most remarkable case is that of the Maid of Orleans, whose history, indeed, has no parallel. Yet, though there is reason to believe that Joan of Arc was influenced by the epidemic tendency of the day, there is no evidence that she ever exhibited the symptoms of demonomania. She had some original peculiarities, and from an early age was pensive and retiring, and shewed a strong religious tendency : she carried the flowers, which her compa-

nions culled for sport in the fields, to ornament the figure of the Virgin. Her habits, too, were, to a certain degree, masculine; she delighted in the management of horses, and, it is said, never menstruated.

The latter circumstance is so often connected with anomalous states of the female health, as to make it probable that, had Joan lived in our own time, she would have been hysterical, and, perhaps, a subject of religious ecstasy. At the age of thirteen she became affected by hallucinations of sight and hearing: she saw luminous appearances, heard unknown voices, and was visited by the Archangels Michael and Gabriel, and Saint Catherine and Saint Margaret; and at the close of her life, neither the rigours of her prison nor the terrors of the stake could make her disavow the reality of these communications. But she never believed herself influenced by fallen spirits; all her counsellors were saintly or angelic, so that her case closely resembled the religious ecstasy of the present day. Yet Calmeil, with a certain candour, exonerates the English from the charge of cruelty in the execution of the heroine, declaring that, had the matter been reversed, she would be equally condemned by the opinions and laws of France. The greatest precautions were taken by the French to assure themselves that the Maid of Orleans was not a sorceress, such as Shakspeare has painted her; and an ecclesiastical commission was sent by Vaucouleurs to examine her habits, manners, and religious conduct. The closest investigation was made to ascertain whether fallen spirits visited her by night; and, to complete the inquiry, a jury of matrons were appointed to ascertain if her honour had been surrendered to Satan.

But few cases of theomania seem to have occurred in the fifteenth century; the disease being most commonly demonomania, or demonolatria (demon-worship). It will be interesting to contrast the symptoms of these two varieties of madness:

“Theomania,” says Calmeil, “influences particularly all those ideas which have reference to the Supreme Being, to angels, miracles, and prophecy. Its subjects have received a divine inspiration which calls them to reform the religion of nations, to establish a universal belief, and to give lessons of instruction to the various kings of the earth. They are messengers of God, great prophets, invulnerable and immortal: they believe themselves able to raise the dead, to hurl God’s anger on the earth, and to hasten the end of the world. Patients labouring under this disease hear the voice of God in storms; they see signs and emblems in the sun and

moon; they stand face to face with resplendent angels, and believe themselves commissioned by Christ to write new codes of morals: they indulge in listening to the celestial harmonies, and breathing odours which the earth cannot produce, and gazing on the splendour of Paradise, and the very throne of the Creator. They will commit suicide and murder to wash away a single stain of sin in blood; they are often opposed to the religious opinions of their own countries, and the priesthood are the objects of their especial hatred, because they will not acknowledge the new apostles who have been appointed by God to purge heresy, and avenge the sins of the world. In addition to these special characters, their hallucinations continue through sleep; they perceive fiery meteors, mysterious beings, and emblematical animals; they hear the thunder rolling, and the trumpet sounding, and appeal to these dreams as further proofs of their prophetic mission.

"Ecstasy is often of the complication of theomania, and then all the false sensations become more vivid and numerous: spasms and hysteric convulsions take place: they hear the Spirit of God speaking within them, and they improvise with extraordinary energy and eloquence, and speak in unknown languages. This disease has appeared frequently, and affected the entire population of certain districts."

The opposite of all this is demonomania, divided by Calmeil into demonolatria and demonopathy, in the first of which the principal character is demon-worship, while in the second the patient believes himself possessed by an evil spirit; but these varieties may be safely considered together, as well as the rarer form of lycanthropy, in which the sufferers imagine themselves transformed by Satan into beasts of prey, so that they might more easily gorge themselves with flesh and blood.

If we examine the characters of demonomania, which was the principal nervous malady of the fifteenth and sixteenth centuries, we are struck with the remarkable fact, that at first demonolatria prevailed, but it became gradually mixed up with demonopathy, and this last passed into various forms of hysteria.

The leading phenomenon was the belief of the sufferers, that Satan had obtained full mastery over them, that he was the object of their most fervent worship, a certain portion of their life being spent in the actual company of himself and his legion of darkness, when every crime that a diseased imagination could suggest was committed by them. They thus became the blind executors of the will of Satan, who appeared to them in various forms, such as a goat, ram, or a hairy monster, &c. He imprinted marks on the bodies of his worshippers; and, in almost every instance where

the disease attacked women, they believed themselves to have been enjoyed by Satan, though this was more often a source of pain than pleasure. In this act, Satan concealed himself in various forms, such as a cat, a dog, or a cock. Both sexes attended at the Devil's Sabbaths, as they were termed, where the sorcerers met, danced, and enjoyed every wild pleasure. Here Satan presided. They denied and renounced Christ, the chrism, and baptism; and in some instances were baptized anew with the vilest of conceivable fluids. To these meetings they travelled through the air, though, by the power of Satan, their bodies seemed to remain at home. They were themselves transformed into beasts of various kinds, and guided by Satan or his attendant spirits through the forests and mountains. They killed children, poisoned cattle, and produced storms and plagues, and held converse with succubi and incubi, and other fallen spirits, who, at their pleasure, could take their enjoyments, even in the conjugal bed itself, or make them commit murder and other atrocities. The sorcerers supplied the victims with poisons of various properties, disinterred dead bodies, caused suicide, and compelled false testimony against the innocent, even the nearest relatives of the sufferers. In some, a consciousness of their state remained, and they prayed their judges, with clasped hands, to hasten their dreadful punishment, so that by death they might be freed from the abominations of their lives. Under the same delusion, the innocent were accused and too often condemned, and even young children appeared in evidence against their parents.

At the Sabbaths, all agreed that from every country the sorcerers arrived transported by demons, some real, others illusory. Men were turned into beasts, and lost the use of speech, while the brutes spoke and reasoned. Sometimes one hundred thousand were present. A wild concert of music now stunned the hearers, while at other times it was sweet and ravishing. Women perched on sticks or riding on goats, naked, and with dishevelled hair, arrived in thousands, each having a young child or two, and guarded by demons. They passed like meteors, and their descent was more rapid than that of the eagle or hawk when striking his prey. These were the chosen couriers of bad news; and the children were shepherds to keep a flock of toads. Over this meeting Satan presided, sometimes as a stinking, bearded goat, sometimes as a gigantic man, or a broken trunk of a tree. When in his human form he seemed tormented, unhappy, and was sur-

rounded by a flame. He sat on a golden throne, and a sorceress whom he had debauched, was seated by his side, with her diadem on her head; around them a crowd of assistants, holding candles of pitch, completed the court of Satan.

The sorcerers passed through false fires, and thus learned to fear neither the fires of temporal nor eternal justice. Innocent children were sacrificed to Beelzebub; while around were set great chaldrons filled with toads, vipers, the hearts of unbaptized infants, foetid water, and vessels of poison, which was bought and sold as a precious merchandise. Indecent dances and licentious songs went on; and an altar was raised, where Satan, with his head downward, his feet turned up, and his back to the altar, celebrated his blasphemous mass.

In the seventeenth century, though still preserving the characters of demonomania, the disease became complicated with hysteria, and was less met with among the general population of the country than in religious communities. Most of its records refer to its ravages in nunneries, where it assumed the form of hysteric demonopathy. In 1628, the Benedictines of Madrid, then a female community of thirty persons, suffered from the malady; twenty-five of these ladies, among whom was the abbess herself, being attacked. It was a new convent, and under the direction of its first abbess and first confessor, and it is difficult to imagine the state of things where thirty women were shut up in a house with twenty-five demons in possession of their bodies. Every one agreed that these nuns were truly possessed by demons; and the confessor performed exorcisms daily and nightly with a zeal hardly to be equalled, and on one occasion prayed for forty hours with the whole community. Llorente, in his *History of the Inquisition*, states that matters continued in this way for three years, and that no one could say when it would have ended, had not the holy tribunal interfered: the confessor was denounced as one of the heretical *Illuminati*, and the abbess and several of the nuns were dispersed into other convents. After the abbess was restored to health, she gave an account of her symptoms and sufferings, which may be taken as a description of the other cases; and it is interesting to observe the development of the magnetic or mesmeric phenomena, as she believed herself, while under the influence of the demon, to be able to divine the thoughts of her suffering sisters.

It was in the order of the Ursulines, however, that the disease produced the strangest and most unhappy results. The first establishment of this order in France was at Loudon, a town in Poitou, in the year 1626, and the disease

broke out within six years from the formation of the community, and led to the well-known tragedy of the unhappy Grandier, then canon of St. Croix, and curate of the church of St. Peter. All the forms of hysteric demonopathy, demonomania, catalepsy, and somnambulism, were produced; and the sufferers declared that their evils proceeded from the communications between Grandier and the powers of hell. It is stated that the confessor of the convent was his mortal enemy; but we quite agree with Calmeil in thinking that, even if he did create a prejudice against Grandier in the minds of the community, this does not fully explain the matter. Grandier was then one of the most remarkable of the clergy of France: he was young, strikingly handsome, and elegantly educated; he was a brilliant preacher, and one whose life had been chequered by a series of extraordinary events, so that public attention was continually fixed upon him; he was a man of wit, fashion, and of gallantry, and nothing was more natural than that, under a state of great mental excitement, the image of Grandier should be continually presented to the minds of the sufferers. He it was, then, who had made a compact with Satan for their destruction; his enemies, among whom was the Cardinal Richelieu, were not slow to avail themselves of this opportunity to crush him. A creature of Richelieu's undertook specially to conduct his trial, from which there was no appeal; he was tried and tortured, and confronted with his miserable and insane accusers; and after a series of the most fearful scenes, he was condemned to the stake; and, up to the moment when the flames destroyed his sense of hearing, the voices of his confessor and attendant monks, adjuring him to resign his compact with the Devil, rung on his tortured ear.

We know nothing in history to equal the horrors of this celebrated trial. In many instances, during the lucid intervals of the accusers, they revoked all their evidence, and declared that Grandier was innocent. On one occasion, when the pitiless commissioner Laubardemont visited the convent, Madame de Belfil, guided by a singular instinct, kept her head under a stream of cold water which ran from the roof, and then stood uncovered for two hours in the court of the convent, under a torrent of rain. She threw herself on her knees before the commissioner, and declared that her evidence against Grandier was false and a delusion. She was dressed in a white robe, had a cord round her neck, and a taper in her hand, and announced that her death should be the atonement for her false accusation. She then returned to

the garden, where she would have hanged herself but for the timely interference of the sisters.

The contagious nature of the malady was remarkably proved by the subsequent events of this epidemic. The secular inhabitants of Loudon and its neighbourhood became affected by it; and no less than six of the male functionaries, who were brought in contact with the sufferers in the convent, became the victims of demonomania. Of these, four were clergymen. The first attacked was the Pere Lactance, who was the confessor of the convent, and attended Grandier to the stake. He died of the disease. His successor, M. Surin, was scarcely a month installed, when he too became maniacal, and believed himself possessed. He recovered, however, but not until after a period of two years. The next in succession was the Pere Tranquilla, who finally sunk from demonopathy; and the fourth, the Pere Lucas, who, at the moment when the last rites were administered to his predecessor, was suddenly seized with the most terrible symptoms.

The fifth subject was Mannouri, the surgeon who had been employed in the trials and torturing of Grandier. He had discovered on the body of the wretched man a number of cicatrices, which, in accordance with the opinions of the day, he declared to be the marks left by Satan on the body of his worshipper. He had also operated by plunging steel sounds into various parts of the living body; and it is stated that, as one of the results of this process, he announced a remarkable hardness of the heart! Contrition, and the effects of the reproaches of the adverse party, wrought on his mind, and soon the apparition of Grandier haunted him, and he died from the effects of this continued terror.

The last case was that of M. Chauvet, a magistrate of Loudon, and one who had been opposed to all the proceedings. This, of course, rendered him an object of persecution, and calumnies were circulated against him. He left Loudon, and some time after, conversing with a friend, the latter assured him, that were even the suspicion of diabolical communion attached to him, he would feel himself degraded for ever. This had the effect of completely and permanently overturning his reason.

The advance of public opinion was shewn by the fact, that the assistance of almost every physician within thirty leagues of Loudon was had in requisition; but still the science of medicine was behind-hand. Twenty-five separate reports were made, and in none of them is it explicitly stated that the disease proceeded from natural causes; and all conclude by

declaring that such prodigies could only proceed from diabolical possession.

It would be interesting to follow the outbreaks of the disease in various parts of France during this century, as at Louviers, Auxonne, Toulouse, and La Haye Dupuis. In the last situation many of the villagers were condemned as sorcerers; but the punishment was arrested by a royal ordonnance, against which the Parliament of Rouen petitioned Louis the Fourteenth in vain; and from this time demonomania was no longer punished with death in France.

The disease under which so many of these communities suffered seemed a compound nervous affection, presenting symptoms of mania, hysteria, and local neuralgia. The convulsions and spasms were almost always present; and the contortions of the countenance thus produced, only strengthened the prevailing opinion of the disease. One of the most common forms of the convulsive access was opisthotonos, produced to such a degree that the head and feet approached. The fixing and turning up of the eye, so as to conceal the cornea, was frequently met with, and respiration would seem suspended for hours together.

In addition to these symptoms, the patients were subject to hallucination of all the senses; they suffered acute neuralgic pains apparently affecting the great viscera, and frequently had long paroxysms of somnambulism; in the last of which, it occasionally happened that the patients suffered severe injuries by falling from a height. Their feelings, habits, and tastes were perverted; they screamed, howled, laughed, and wept by turns, and gave utterance to the vilest expressions, and inconceivable blasphemies. These symptoms were intermitting, and it was generally observed that after a severe paroxysm the skin was cool, and the pulse tranquil. Two circumstances never failed to bring on the paroxysm: one, the attempt at exorcism, by which the most severe symptoms were produced; the other, the performance, in the presence of the patient, of any religious exercise. They frequently spit at the Host, shewed the greatest horror for all the rites of the Church, and even offered violence to the priest at the altar.

In this disease of demonopathy, the belief in the possession by separate demons was remarkable, although in a few instances more than one spirit had possession of each individual: to these demons they gave names, such as Dagon, Gonsang, Accaron, Beelphegor, Delphon, &c. The attempt to dislodge these demons by exorcism produced extraordinary suffering; and the patients, in some cases, ejected from their mouths por-

tions of hair, fragments of bones, morsels of wax, iron nails, and even living insects: to this point we shall return, and also to the appearance of the so-called magnetic or mesmeric phenomena of the present day. In truth, the "séances" were on a scale before which our isolated exhibitions dwindle into insignificance. The exorcist was the magnetiser; but whether "en rapport" with the demon or the patient we will leave to Dr. Elliotson or some of the modern divines to determine.

At the close of the seventeenth century and the beginning of the eighteenth, we find the disease occurring, though under a somewhat new phase. The Calvinists were now its victims, and we see the combination of theomania, ecstasy, and convulsions, occurring under the influence of Protestantism. The victims of the disease were numerous in France and Germany, and the extravagancies of the Anabaptists may well bear comparison with those of the religious communities in the sixteenth century. Had there been religious communities of the Lutheran sects, there can be no doubt that similar scenes would have occurred. As it was, the disease was principally seen in individuals who believed themselves inspired, and who communicated their phrensy to their hearers. They had their ecstasies, visions, and colloquial intercourse with God and angels. They were affected with tremblings and convulsions, delirium and magnetic trances. They preached the doctrine of the impeccable spirit, and, under its influence, committed the greatest crimes and extravagancies.

"Most of the inspired of whom I have spoken," says Calmeil, "held themselves to be the reformers of Roman Catholicism. Several of them, as we have seen, were Protestants. It has been well remarked, that the dissensions and contests caused by the pretensions of Luther had produced clouds of prophets.

"Some time before 1665, when the revocation of the Edict of Nantes came into full operation, which prevented the French Calvinists from the exercise of their religion, they were the victims of extreme persecution. Their churches were suppressed; marriage between a Catholic and a Huguenot was declared unlawful; those who professed the reformed religion were attempted to be excluded from the exercise of their trades or professions; their children were forced to abjure their religion, and were forcibly baptised. Soldiers were quartered on the houses, and, when the inhabitants deserted their homes, their goods were confiscated, and those apprehended in the attempt to escape were imprisoned or sent to the galleys. The schools were suppressed; the professions were closed to them; their magistrates were degraded; their

houses for religious worship were destroyed, and several of the pastors broken alive on the wheel. Thus the country was depopulated, and terror filled the hearts of those who had no alternative but to suffer, or abjure the faith of their fathers."

Such a state of things powerfully predisposed and induced religious enthusiasm and mania; and, at last, whole bodies of maniacs were led on by their prophets against the royal troops,—the only instance on record where regular troops engaged in actions with madmen. The whole of Viverrais and Dauphiné was overrun by the disease, which affected even young children. It is a most remarkable fact, that the children in the Cevennes and Languedoc, who had been placed under new religious instructors, became themselves preachers and prophets, and called on their parents to arouse from their spiritual lethargy. This new excitement was contagious, and spread, notwithstanding the use of the scourge, and hot iron applied to the soles of the feet; and not less than eight thousand children, many of them only seven or eight years of age, presented all the symptoms of ecstatic theomania.

As the disease continued to spread, the mental malady became complicated with convulsions, and the bodily symptoms of hysteric disease continued; and it is recorded that many Catholics were affected by the disease, and, in common with the Calvinists, believed themselves inspired, and commenced to preach a new Gospel on earth.

That this affection occurred irrespective of religious doctrine or tenets is abundantly shewn by its epidemic among the French Calvinists and German Anabaptists. Further support to this opinion is to be drawn from the history of the Jumpers in Wales, and the accounts of the "revivals" in Scotland and America, where the wildest scenes of ecstatic theomania were enacted by thousands of persons of both sexes; and the conclusion is inevitable that, under any form of worship, religious mania may affect individuals or masses of men. It is to various moral and physical causes that we are to attribute the spread of the disease. The contagion of enthusiasm, change in religious belief, asceticism, persecution, want, and depression of mind, are its main excitants, and will produce it, totally independent of the belief originally held.

In the beginning of the eighteenth century, some cases of special nervous disease were observed in England and in France. It was a convulsive or hysteric malady, in which,

among other extravagances, the patients barked like dogs. Dr. Willis thus describes the disease :

“ In the family which I visited there were five girls ill : I heard their cries a long time before I arrived at the village, and when I entered the house I remarked that, although their heads were agitated with great violence, there appeared no convulsion on the face, except that they frequently yawned. Their pulses were good, but towards the close of the disease became a little feeble. Their cries did not resemble so much the sound made by dogs when barking, as that made when they howl, or are complaining. They were more frequent, also, than those of dogs, and, in fact, occurred at every respiration. The youngest of these girls was but six years old, the eldest but sixteen. Sometimes intervals occurred in which they had the perfect use of their senses : the seizure of the disease was sudden ; and, after howling until they were exhausted, they fell as in epilepsy.”

Rollin and Hecquet have recorded that, in a very extensive convent near Paris, the members of the community were every day attacked, at the same hour, with a form of vapours truly singular, from its nature and universality. The whole convent seemed affected simultaneously. A general mewing was heard through the entire house, which lasted for many hours, to the great scandal of religion and of the neighbourhood, over which the mewing could be heard. In this case we do not hear of exorcisms ; but the disease was cured by its being signified to the patients, that the magistrates had ordered a company of soldiers to be stationed at the gate of the convent, who were to enter at the first appearance of mewing, and shoot the offenders. The disease, by this plan, was speedily put an end to.

The latest appearance of the barking disease we believe to have been at the camp-meetings of the Methodists of North America, where their extravagances have past all belief.

“ Women,” says Hecker, “ have been seen to miscarry, whilst suffering under the state of ecstasy and violent spasms into which they are thrown ; and others have publicly stripped themselves, and jumped into the rivers. They have swooned away by hundreds, worn out by ravings and fits. Of the Barkers, who appeared among the convulsionaires only here and there, in single cases of complete aberration of intellect, whole bands are seen running on all fours, and growling as if they wished to indicate, even by their outward form, the shocking degradation of their human nature(c).”

(c) Epidemics of the Middle Ages, Dr. Babington's Translation.

This symptom of convulsive disease was observed in other cases of demonopathy, particularly in the community of Landes, where the disease appeared with all the violence and symptoms of former epidemics : this occurred in 1734, and it is worthy of note that, notwithstanding the declared opinions of two prelates and many minor clergymen, and of four eminent physicians—André, Winslow, and the two Chomels—the Bishop of Bayeux reversed the sequestration of the curate, who had been accused of connivance with Satan. He took the most energetic measures for the separation and proper medical treatment of the sufferers, and succeeded in putting an end to the disease(*d*).

It would be desirable, did space permit, to examine the history of the last great epidemic of convulsive theomania, which originated among the Jansenists in Paris, at the cemetery of St. Médard, and continued up to the period of the Revolution. Its immediate exciting cause was the report of miracles having been performed at the tomb of the Deacon Paris, who had been one of the most zealous opposers of the Papal bull *Unigenitus*, which caused such dissension in the French church. Crowds of both sexes flocked to his tomb, and there became affected with the most violent convulsions, and all the symptoms of ecstatic theomania. The disease spread through all classes, producing convulsions, hysteria, ecstasy, and somnambulism. The patients were only to be relieved by punishments inflicted on them by brethren of the faith. They were beaten with heavy clubs, and underwent every description of torture, and some of the patients bore from six to eight thousand blows in the day, apparently not only without pain, but even with gratification. The greatest desire was shewn among them to distinguish themselves by every description of penance and mortification; and it commonly happened that young and delicate females were seen

(*d*) We are indebted to our friend, Mr. E. Curry, for calling our attention to an interesting notice of the barking disease, occurring in Ireland during the fourteenth century:—

“In the county of Leinster there happened such a strange prodigy as had never been heard of. A person travelling along the road found a pair of gloves, fit for his hands, as he thought; but when he put them on he lost his speech immediately, and could do nothing but bark like a dog; nay, from that moment, the men and women, old and young, throughout the whole county, barked like dogs, and the children like whelps. This plague continued with some eighteen days, with others a month, and with some for two years, and, like a contagious distemper, at last infected the neighbouring counties, and set them a-barking too.”—*Annals of Ireland, Camden's Britannia*, vol. ii. p. 636.

licking and sucking the most foul and corrupted ulcers, to gratify the impulses of a morbid charity.

It will be profitable to look back on the singular array of facts presented to us by Calmeil. We see a peculiar state of the nervous system, evidenced by certain groups of symptoms, to arise epidemically, and to spread as if by contagion, so that vast numbers of persons became affected by it. It attacked both sexes, and children long before the age of puberty, and preserved its general character for nearly three centuries. That it was a nervous or neurotic malady is obvious, and if it cannot be brought accurately under the heads of convulsion, catalepsy, hysteria, or mania, we must only lament that our nosologists make distinctions which are set aside by nature. We may get a good idea of it by studying cases of hysteric mania in the present day; and then if we look back and consider the ruling ideas of the period, the social condition of the sufferers, and the state of religious opinion, we can have little difficulty in bringing this great outbreak of nervous disease strongly before us.

In considering these sad histories, we cannot help reflecting on the curious circumstance, that every one of the strange and anomalous phenomena of the hysteric state were produced on a great scale. We see the propagation of the disease by sympathy; the combination of the voluntary and involuntary in the acts of the sufferers; the tendency to deceive for the purpose of exciting that sympathy; and lastly, the production of the mesmeric or magnetic phenomena as a common occurrence.

We have also evidence, if such were wanting, of the entire independence of hysteric disease of the uterine function, or of sexual excitement. Its occurrence in very young children, its spreading by sympathy, its affecting males,—these and many other facts go to overturn the doctrine still too generally held by medical men, that the main cause of hysteria is the existence of ungratified desires. We wholly dissent from this very ignorant and vulgar doctrine. The opinion is founded partly on the derivation of the name, partly from misinterpretation of the symptoms of the disease, and partly from a low opinion of woman. It is true that hysteria may be excited by uterine derangement; it is true, on the other hand, that nymphomania or erotomania may occur as a complication in hysteria. There is no reason why, in a disease in which the brain, heart, lungs, and muscular system, undergo such singular excitements, that the uterus and its appendages should not participate in the disturbance. In

this climate, at least, the opinion that hysteria in the young, unmarried female always proceeds from, or is connected with, uterine excitement, is one which no well-informed or truly practical man will adopt; let it be left then with that class of men, fortunately diminishing, who are as ignorant of the natural history of the disease, as they are of the delicacy of the female mind, or the nature of the female organization. The name hysteria ought to be got rid of, and some other one invented. To old names we have no objection, save when they imply an error in doctrine. We have seen such evil effects produced in practice by this wretched opinion, that we cannot find terms sufficiently strong to express our dissent from it. We have seen disease confirmed by neglect of its true exciting causes, exasperated by ridiculous remedies, and, worse than all, we have known the feelings not only of a delicate and pure-minded girl outraged, but her whole family rendered unhappy, by the suspicion which ignorance created, and brutality could not conceal. In this way deep wounds are inflicted on the character of our Profession. Every practical physician knows that marriage will not always cure hysteria. How often does an unhappy marriage create it; and when it subsides on marriage, it is not on account of indulgence in sensual enjoyment. The marriage state is one of new duties, new hopes, serious reflection, and increased occupation; and it is to these circumstances that we would attribute the change. Besides, the girl has got what the female mind and heart have been framed for, an object to love; not for animal enjoyment, as some believe, but for a higher, purer, holier end, and so she is happy, and being so is well.

The next consideration, taking the symptoms in their inverted order, is the frequent production of the mesmeric or magnetic condition in the disease. To us, at this period, these facts have a great interest, for we see every one of the actual and imaginary conditions of the mesmeric state, so closely in relation with the disease which afflicted so many thousands, that it is impossible to resist the evidence, that all the strange circumstances which now amuse the public mind, are but instances of a special and diseased state of the nervous system.

The most remarkable of real mesmeric phenomena are:

1st. The mesmeric sleep.

2nd. The local insensibility to pain.

Of the false or misinterpreted phenomena we may enumerate:

1st. Clairvoyance.

2nd. The inner vision.

3rd. The knowledge of the thoughts of those "*en rapport*" with the subject.

4th. The power of the magnetizer to produce various conditions at will.

5th. Use of languages supposed to be unknown to the patient.

All these also were produced in abundance by the subjects of demonopathy in the sixteenth and seventeenth centuries.

In the case of the Ursulines in Loudon, many "*séances*" took place, attended by crowds of amateurs, among whom was the Duke of Orleans himself. They witnessed abundant examples of the "truth of Mesmerism." Madame de Sazilli was exorcised in the presence of the Prince: the exorcist commanded the demon to render the entire body of the patient as supple as a slip of lead: he then folded the trunk into a variety of forms, in each of which she was retained immovable. During this time, respiration could hardly be perceived; and this lady felt no pain, although her arms were pierced through with pins. The Duke having made a secret communication to the exorcist, the patient at once fulfilled the order; "and this phenomenon," says Calmeil, "one of the exploits of modern Mesmerism—this reading the thoughts of the magnetizer—was produced in hundreds of cases."

At Auxonne somnambulism was produced at the command of the exorcists, or happened at the hour predicted by their suffering companions. The Bishop of Chalons having commanded the demon who possessed Madame Denise to suspend her sensibility, and render her inaccessible to suffering, they were able to run pins under the roots of her nails without producing the slightest sign of pain. The exorcist had the power not only of paralyzing all the senses, but of restoring them collectively or singly as he saw fit. The most unlimited power was exercised over the muscles. In the case of the Sister Agnes, who was possessed by four demons, Asmodeus, one of them, being commanded to adore the holy Sacrament, obeyed, prostrating her body on the ground. After various other scenes, one foot was placed on the back of the head, and then carried forward so that her heels almost touched her nose. Being commanded to kiss the ciborium, and say what it was she adored, the demon obeyed the first command, but refused to perform the second, replying to the priest, as if in mockery, "Don't you see that I will tell you by-and-by?" On recovering, she said to the Duke that she remembered some of the circumstances that had occurred, but not them all; and that

she had heard the answer that she had given spoken as if by another person. Many other examples could be given of the power over muscular action possessed by the exorcist.

It cannot now be denied, that all the wonders of Mesmerism were produced in these epidemics; and no one familiar with disease, or whose mind is unwarped by prejudice, can for a moment doubt that these phenomena were merely symptoms of the general malady, just as much as the globus, hiccough, spasms, pains, tympanitis, and mental derangement, which at the same time tormented the sufferers. Modern Mesmerism has added almost nothing to these symptoms, which have occurred in hundreds of cases as component parts of a general disease; and the conclusion is irresistible, that the unfeigned phenomena of the mesmeric state are truly symptoms of a diseased condition of the brain, which may arise spontaneously, or be excited by particular proceedings. The magnetic sleep, the local insensibility, the rigidity of muscle, the apparent suspension of animal life, all these are producible in certain persons by the mesmerist, not from any virtue or influence contained in him, or passing from him to the object; but by the excitement which his proceeding produces on his victim. A true pathological state is produced—a condition of disease of the brain—and nothing more. Clairvoyance, too, or rather the belief of the patient in the power of clairvoyance, is another manifestation. It was generally believed that the sufferers from demonopathy possessed singular faculties. The Bishop of Chalons relates, that

“All the aforesaid females, sixteen in number, seculars and regulars, without any exception, appeared to him to possess the knowledge of tongues. To the questions of the exorcists, they answered correctly in Latin. The questions were not borrowed from the Ritual, and still less were they preconcerted. They often spoke in Latin; sometimes in sentences, at other times in more lengthened discourses; almost all seemed to possess a knowledge of the secret thoughts of those who addressed them. This was remarkably seen in Laus, where the exorcist mentally commanded certain acts, which were on many occasions fulfilled. The command was neither expressed by speech, nor any exterior sign.”

In the case of Rensie Pausot, the bishop directed “*dans la fonde de sa pensee*,” that she should come to him to be exorcised; she lived in a distant quarter of the town, but came to him immediately, saying that she did so in obedience to his commands: this happened repeatedly. Phenomena of the same class were observed in the epidemic of demonopathy in Bayeux, in 1732. When the sufferers were desired

to pray, they became mute; when a sacred book was given them, they became blind; and when they were collected together to hear a sermon, they all became deaf. It was part of their belief that the demons who possessed them would fly from the contact with a holy object, and hence the sprinkling with holy water, or the application of a reliquary, removed the muscular paralysis, the occlusion of the senses, and restored the intelligence.

In one case the patient, who had previously abandoned the study of Latin, comprehended all the orders of the exorcist, provided they were given while she was in the state of somnambulism. In this or the ecstatic condition even the application of fire produced apparently no pain, and the patients exhibited all the symptoms of clairvoyance, describing the interiors of houses far removed from them, and in many of which they had never been.

The occurrence of ecstasy and somnambulism was very remarkable in the theomania in Paris.

The occlusion of the senses, and the concentration of the intellect, were so intense, that the patients remained long in a cataleptic state; this their brethren denominated "the state of death." According to Montgeron, this state of death is a time of ecstasy, in which the *convulsionnaire*, whose soul is wholly absorbed by some vision, loses more or less the use of all his senses.

"Some remain two or three days with their eyes open, but fixed; the countenance pale; the entire body insensible, and rigid as that of a corpse. The most severe tortures were applied without procuring any evidence of pain. In most cases the ecstasy was not continued, but the sufferers had intermissions. In ordinary cases they generally saw, heard, and understood what was passing around them; but their souls seemed occupied in the contemplation of objects which a higher power displayed to them. This supernatural state exhibits a soul disengaged—aspiring to the highest happiness—in fact, already enjoying it. In the state of convulsion, the patients generally shewed a much higher degree of intelligence and penetration than was natural to them. Girls who were extremely timid, of low birth, and without talent, spoke under the excitement of the disease with eloquence, accuracy, and elegance, on the corruption and fall of man. A young girl who, in her ordinary state, was so stupid and rude as almost to pass for an idiot, when in convulsions shewed so much penetration, and answered questions so ably, that she might have passed for a person of excellent education, and great natural talents(e)."

It is now manifest that all the phenomena of modern Mesmerism have occurred, on a great scale, as symptoms of cerebral or mental disease; paralysis of all the senses and of motion; rigidity, or flaccidity of the muscles; complete insensibility to pain; obedience of the functions of animal life to the will of the operator; development of apparently new intellectual powers; belief in clairvoyance, the spiritual life, and all the remaining phenomena of somnambulism, have been seen, not in isolated examples, but occurring in hundreds, we might say thousands, of cases. We implore our medical brethren to bear these facts in mind, and not to lend their sanction to the more than contemptible delusions practised and patronized in the present day. But little acumen is required to understand the master trick of mesmerism, namely, the power of reading the thoughts of the magnetizer. In the diseased condition induced by the manipulations of Mesmerism, one of the most remarkable characters is the excitement of the brain; the subject is endowed with exquisite penetration, and a look or movement, totally inappreciable to the bystanders, is at once seized, and the order acted on. The clairvoyance is true so far as the patient is concerned; that is to say, he believes that he sees what he has never seen, and his descriptions are easily swallowed as truths by the weak and credulous. It is melancholy to reflect on our ignorance, when we find such things believed; why do the mesmerised limit their clairvoyance to the description of the interior of houses and furniture, old gentlemen sitting in chairs, ladies reading, or the arrangement of furniture? Why do they not tell the fate of armies; anticipate the bulletins of battles; declare the advent of revolutions, the state of markets, or the result of every great undertaking of man in any part of the earth: in a word, why are they not the electric telegraphs of the round world? But why pursue this further? Until the education of the better classes is improved, we must expect to witness these follies and ignorances.

"It should be remembered," says Calmeil, "that all those have declared utter falsehoods who assert that the magnetic agent conferred on those individuals, who had entirely lost the organs of sight and hearing, the power of again hearing and contemplating the actual world the moment they fell into a state of somnambulism. It is no less false that somnambulists have the faculty of seeing through walls, of describing at ten, twenty, or an hundred leagues distance a scene which is actually passing in a place in which they have never set their foot, of hearing what is said there, of relating in detail the events which are there

taking place. Nor can somnambulists read the thoughts of those who are at a distance from them, unless these thoughts have been indicated by an external significant manifestation

“ We may regard it as a certain fact, that magnetisers do not grant sufficient, or grant far too much to the exercise and power of the external and internal senses during the semi-ecstatic state of the somnambulists, and that from these two sources have flowed the principal errors into which the writers who have expatiated on somnambulism have fallen.

“ In the first place, they wrongly inferred, from the momentary and evident obscuration of the external senses in some somnambulists, that in all these patients the senses were incapable of receiving and carrying to the brain the slightest impression arising from without, except when the magnetizer established, by means of his fluid, some secret means of communication between the brain of the magnetised subject and the external world; it was without any foundation that they asserted that in this manner, in usual circumstances, the somnambulist was isolated by the inertia of his senses to the physical world. They forgot the example of certain somnambulists who had enjoyed the faculties of seeing and hearing, and of spontaneously exercising that of touch almost as freely as in a natural state, without any magnetiser troubling himself with them, or thinking of influencing their relations with men or things. They did not themselves perceive the objection, that after a few seconds the tympanum was not at all affected by the explosion of fire arms, was insignificant, seeing that the senses of somnambulists may be alternately firm or easily affected. It is sufficient, however, to establish this last truth, to examine with a little attention a given number of somnambulists, or to look at the accounts of somnambulism published by the partisans of the theory of Mesmerism themselves. This study of facts will immediately inform us that many somnambulists exclaim spontaneously that some one knocks at the door, that the sound of carriages, the feeling of heat or cold, annoys them; that their chair hurts them, that the ground on which they are walking is rough and unequal, that the warmth of the fire is pleasant to them; all these impressions denote some actual activity of the senses. We may then suppose by induction that a man in a state of repose may often, in the same way, be susceptible of many impressions, which he does not always display to those who examine him, and which he nevertheless employs in his own mind to combine his ideas; moreover, which is a much stronger argument, most somnambulists receive, unknown to us, sensations which inform them of what is passing around them. This none of them wished to see, and as the generality of magnetisers were not on their guard against the penetration of the sleeping patients, they spoke and acted before the somnambulists as if they had been absent; it followed, from this want of foresight, that when the obscuration of the senses was only momentary, imperfect, or limited, they completely initiated the patient into the knowledge of

the secrets and things which they had intended and declared to have been hidden. This blindness was here carried so much the farther, as the somnambulist who is accustomed to concentrate in his fits the whole force of his action on the person who magnetizes him, with whom he has continually new communications, soon acquires in his presence such exquisite perception, that the slightest expression in the countenance of the magnetizer, his slightest gesture, may be seized and interpreted by the magnetized person; and the spectators are persuaded that he reads the thoughts and divines the secret intentions of his fellows. We may now know what should be understood by the powers of divination of some somnambulists.

“The exaggeration of the power of the sensitive organs, during somnambulism, is described in the language of magnetisers, who affirm that the magnetic fluid, placed as an immediate agent between the tympanum, the retina, the organs of smell, taste, and touch, and the corporeal world, allow somnambulists to receive impressions at a great distance, or from one country to another. The sphere of action of the nerves of sensibility does not admit of such an extension of its limits. Unknown hallucinations, the unexpected excitation of the powers of memory, have alone given occasion to the belief that distance does not constitute a serious obstacle to the exercise of hearing, seeing, or touching, in ecstatic patients. It is then well understood that the theory of unlimited or almost unlimited extension of the sensitive power in certain nervous diseases, is not more admissible than the theory of the necessary and permanent obscuration of the senses of somnambulists. You will, however, find in the accounts of magnetisers, a number of anecdotes which they assert to be sufficient to prove the possibility of the conveyance of hearing, sight, and the other senses, to immense distances. This old error, which we have so often refuted, will no more impose upon us in the writings of magnetisers, than they did in those of demonologists and exorcists. It is incontrovertible, doubtless, that in somnambulism, as in the sensorial delirium of a number of insane persons, the deaf can hear, the blind can see; that individuals, while apparently sleeping, may give magnificent descriptions of nature or the country; but it is the brain alone that produces all these prodigies, the corporeal world has nothing to do, so far as regards the present moment, in the production of these effects; these patients simply enjoy a privilege common to all insane persons. Certainly a tree may be in the place where they perceive it during somnambulism; it may be very possible that the description they give of your furniture or your apartment differs little from the reality; but if they happen once to be right, be sure that in this case of exception, it is the inspiration of memory, and not from impressions from without, which enables them to exercise this apparent clairvoyance. Besides, all magnetisers who have admitted the reality of this clairvoyance have not attributed it to the momentary perfection of the senses of the somnambulists; some have preferred supposing that the soul itself had advanced to meet corporeal impressions; that

infernal or celestial agencies had undertaken to raise in the soul or brain of the somnambulists impressions which are habitually formed there only in the presence of the material objects themselves. We may expect to see some of the partisans of animal magnetism, from want of having learned to distinguish between hallucinations and real sensations, sooner or later fall into the track of that miserable theory, which had brought our ancestors to so many deplorable excesses. In fact, according as the circle of their knowledge has increased, magnetizers have at last comprehended that those exceptional faculties with which they thought their somnambulists endowed, resemble in every particular those which inquisitors, exorcists, and theologians, pretend to have discovered in demoniacs and ecstasies. Now, since every one believed formerly that the clairvoyance of the ecstasies and the subjects of convulsive disease, was owing to the action of supernatural beings on the brain, we may expect to find some enthusiastic magnetizer attribute the clairvoyance that they have produced, also, to supernatural influence; and this explanation has been given in certain instances. But in truth the study of those exceptional faculties occurring in the crisis of nervous disease, in every country and at every period, has no interest unless as a part of mental pathology."

We have spoken of the feigned and unfeigned phenomena of Mesmerism. In the present day there are two classes of somnambulists: one, those who, though at first innocent victims of this excitement, become from repetition, as it were, demoralized, and then, making a trade of their condition, exhibit a mixture of real and feigned phenomena. These are generally women in the pay of the travelling adventurer. In the second class are to be placed individuals who have been accidentally, and for the first time, brought under the operation of Mesmerism. The itinerant mesmerizer arrives in some locality, and exhibits his servant, a person already rendered susceptible to the diseased condition, and too often demoralized, so as to feign and assist voluntarily in exciting wonder. The more remarkable phenomena are then exhibited on this individual, and then the production of sleep, and muscular paralysis, and rigidity, in some of the by-standers, is accepted as proofs of the "truth of Mesmerism." We are sorry to see medical men even witnessing these exhibitions; the production of disease for the purpose of public amusement or excitement ought not to be countenanced by a Profession whose calling is to repress or remove disease; and, if anything was wanting to increase this feeling, it is the quantity of falsehood and delusion, voluntary and involuntary, which is mixed up with the whole matter.

For one of the most remarkable conditions of nervous or

hysteric disease, is the tendency to feign, *and this is in itself a symptom of insanity*. In this strange condition, which we have been studying, there is an admixture of the voluntary and involuntary, difficult to be analyzed; in some, the cause of deception seems to be the desire for sympathy, in others no assignable reason can be given. The nuns of Auxonne, when exorcised, ejected various substances, such as iron nails, hair, wax, &c. The Profession in Ireland are familiar with the celebrated case published by Dr Pickells of Cork: a young female, who had already shewn symptoms of convulsive hysteric disease, began to eject from her anus quantities of insects, some alive, others dead and putrid; the quantity discharged, both of perfect insects and larvæ, was enormous, and continued for years, during which time she was an object of constant interest and solicitude. The daily discharge was registered, and learned entomological and medical disquisitions were not wanting, till it was discovered that the whole was a delusion, and that the wretched girl collected those animals herself and mixed them with her discharges; here, then, was deceit, but, doubtless, involuntary deceit.

Mr. Carmichael has published another example of the same mental condition in a female, whose elbow-point appeared to be in such a state of chronic disease as to require amputation. She submitted cheerfully to the operation, and, on dissection, the joint was found filled with needles, which the patient had, from time to time, inserted. This was another example of hysteric mania. We are indebted to our friend, Staff Surgeon Marshall, for the particulars of a case which occurred in Scotland. It was that of a female, aged twenty, who became subject to violent nervous disease, accompanied by severe organic symptoms. She had copious hæmoptysis, epileptic convulsions, and hemiplegia. She became deaf, dumb, and blind. She passed calculous matter with the urine, and this was followed by ascites and anasarca. Soon after this, Dr. Marshall's informant saw her: she had then paralysis of the right fore-arm, and rigid contraction of the fingers. A variety of violent symptoms now supervened, and she, at length, complained of pain in the region of the liver—a symptom among the very first with which she had been affected. Vomiting of a puriform matter took place, followed by the ejection of masses of an animal substance, resembling liver, which continued for many months. During this time she asserted that she used no animal food, and maintained that they were portions of her own liver. In the beginning of the next year she had violent neuralgic pains, followed by repeated fits of convulsions, during which

her body was bent so that she was only supported by her head and heels. In the first of these, the right arm was observed to be in motion, but not subsequently. This state continued, with paroxysms of hysteria, for a year and a half, when her general health became improved, and her arm regained the power of motion. Soon after this she vomited a piece of bone; and, during the next two months, she ejected fifteen or twenty fragments. In March, 1825, a piece of bone stuck in the œsophagus, when, as she declared, it was rising from the stomach: by means of the probang it was pushed back. The same day she vomited three pieces of bone. On the 28th of April, a probang required to be employed for a similar purpose. A portion of bone was extracted from the vagina the same evening; and a few days after several pieces of bone were passed by stool. On the 3rd of May a piece of bone, four inches long, was extracted from the vagina. June 5th, the catheter was used; another bone, five inches long, with a sharp point, was extracted from the vagina. The bone was not felt by the catheter, but immediately after she complained of severe pain in the part: on examination, nothing could be felt: on a second examination, however, the bone was discovered and extracted. From this date till the middle of August, a considerable number of bones were extracted from the vagina; four portions were found at the side of the os uteri.

About this time her medical attendant found a piece of bone enveloped in a paper in her bed; it bore marks of having been cut by means of a sharp instrument. Twelve pieces of bone were subsequently extracted from the vagina; one was found lying across the os uteri. Some of these bones were fresh and soft as if they had been recently torn from a young animal. On the 24th of June, a piece of bone was extracted with considerable difficulty from the bladder. Some time before this date, Miss S. was told by her medical attendant, that the bones which he extracted from her vagina were not human bones, but fragments of the ribs of a sheep. He now informed her mother of his opinion, and shewed her the portion of bone which he had found enclosed in paper, evidently prepared for location in the bladder or vagina. The patient insisted that the bone which was found in her bed had passed through her bowels. A piece of bone was extracted from the urethra on the 28th. She became about this time subject to great violence of temper; hysteric paroxysms, and cramps of the legs occurred often; eventually a fit resembling epilepsy supervened. From a variety of circumstances, this fit was suspected to be feigned. For several days she expressed

a wish to be admitted into a public hospital, and on the 29th of August she became a patient in the ——— Infirmary, where she was placed under the care of Dr. B. For about fourteen days her vagina furnished a regular supply of bones. At the end of that period, her former medical attendant called on Dr. B., and made him acquainted with the preceding facts; while he, at the same time, produced a large collection of the bones he had extracted from the vagina or bladder. The doctor was at first unwilling to believe that the bones had been self-imposed, and suggested the probability of their being those of the fœtus of an extra-uterine pregnancy. He concluded by saying, "What do you think is the matter with her? I think she is dying." He, however, directed her to be accommodated with a secluded apartment, and from that period no more bones were produced. This circumstance satisfied him that his conjecture had no foundation, and shortly after she was discharged. Since this period she has occasionally waited on a medical practitioner for the purpose of getting bones extracted from the vagina. Her general health is now (December, 1828) presumed to be good, as she has lately been employed in the usual avocations of her sex and rank in life.

We have given this case at length, as it has not been heretofore published, and is illustrative of the strange mental condition of the victims of hysteric or convulsive mania. The instance of spiders in the eyes of the American girl lately published, is also one in point. We have ourselves witnessed a case which, had it fallen under mesmeric treatment, would have been a great triumph to the doctrine. A young and finely-developed woman was attacked by hemiplegia, and for a period of ten months underwent the most violent, though ignorant treatment. The whole battery of medicine was opened upon her; she was mercurialized, and tartar emetic, iodine, and strychnine used; blisters and the actual cautery were abundantly employed, but in vain. At the end of the year she was admitted into one of our hospitals, when the physician observed that there was such contraction of the right arm and leg, as that the knuckles could not be separated from the shoulder, and the dorsum of the right foot was so compressed on the left buttock as to cause superficial gangrene; there was no paralysis of the face or tongue, and the nature of the case appeared evident. He directed the class to pay no attention whatever to this patient, to shew no interest in her case, and thus some days were passed, nothing being done but to insert pledgets of lint between the foot and buttock. After a few days he entered the ward accompanied by a single assistant,

and proceeded to make extension of the arm; the patient uttered piercing cries, and made violent resistance, but as soon as semi-extension was effected the muscular resistance suddenly gave way, and the arm was relaxed; *next day she had perfect use of the limb*; in a few days more the same proceeding was adopted as to the leg, and after great exertions it was also restored to its proper position, and on the following day the patient walked about the hospital without lameness, weakness, or any sign of disease. In the course of a month she returned with convulsive actions of the right hand and arm; she was spoken to roughly and dismissed, and from that time the malady disappeared. Had this patient found herself an object of sympathy and wonder, how different would have been the result; had she been thrown into the disease of somnambulism, who can doubt that her limbs would have obeyed the will of the magnetiser, and the removal of the contraction would have been every where proclaimed in evidence of the power of Mesmerism over an apparently incurable disease, one which had resisted all ordinary treatment.

In the notice now given of the work of Calmeil, we have contented ourselves with a mere sketch of the subject. The book itself contains minute descriptions of nervous diseases, such as are to be met in no other work with which we are acquainted, and we earnestly recommend its careful perusal to our readers. M. Calmeil deserves the greatest credit for his able elucidations of the delusions of modern mesmerism, and for placing before the world the incontrovertible evidence of the true nature of magnetic wonders. Diseased excitement of the nervous system, whether we consider the body or mind, is producible in many persons by various means; and the special conditions of somnambulism, ecstacy, and convulsion, are accompanied by various phenomena according to the circumstances of the case, and the physical and moral character of the subject. The great error lies in the mal-interpretation of the phenomena, and the belief in the existence of a special influence or fluid passing from the operator to the patient. Let it never be forgotten, that all these phenomena, without any exception, have existed in epidemic diseases, and that they still recur spontaneously as symptoms of ordinary nervous malady. And, when it is recollected, that for three centuries Europe was tormented to its heart by this very disease, in an epidemic form, the guilt and folly of reproducing it, or any one of its symptoms, artificially, cannot be too strongly reprehended. We have heard of a case in which confirmed epilepsy was the consequence of repeated mesmeric operations on the innocent child of an amateur, a result not to

be wondered at, for it is in the very nature of nervous diseases, that when once produced, they are liable to return, either in their original, or some other form. There is also another, and more grievous result, we mean the demoralization of the individual so operated on—a condition equally produced in cases of badly treated hysteria. In time, however, the advance of knowledge will dispel these delusions, and we hail the increasing connexion of Mesmerism with Phrenology and Homœopathy as a good omen, for the history of such quackeries shews that they thrive best when standing alone in their falsehood. In the meantime, let us call on the Profession to discountenance all these follies and delusions, and to so study the subject, that they may be prepared to guide the public mind, still so ignorant on all physiological and pathological subjects. We have never believed in the old adage, that a little knowledge is a dangerous thing, for knowledge is in itself so excellent, that the smallest portion of it is invaluable, and we hold it to be imperatively called for, that our universities and public schools should see that some instruction in the first principles of medical science should be given to the students of divinity and of law, and to that class which is to constitute the nobility and gentry of the country. Were this done, quackery would have fewer supporters. The Bar would exhibit greater knowledge of medical jurisprudence; and we would not see the clergy of the Establishment so frequently supporting a system of falsehood and demoralizing error.

On the Alternation of Generations; or, the Propagation and Development of Animals through alternate Generations; a peculiar Form of fostering the Young in the lower Classes of Animals. By JOH. JAPETUS SM. STEENSTRUP, Lecturer in the Academy of Söro. Translated from the German Version of C. H. Lorenzen, by George Busk, London. Printed for the Ray Society, 1845.

THOUGH the many beautiful phenomena which recent researches have brought to light in the history of organic development had prepared us to expect some strange discovery in this department of physiology, we must, nevertheless, confess, that the announcement contained in the book which forms the subject of the present notice came upon us somewhat startlingly; and yet we believe our readers, after a perusal of its pages, will agree with us in considering that the author has not taken up his position rashly, or on imperfect and fancy-distorted observations.

The doctrine to which the present work is devoted, and in support of which a great number of highly curious facts are adduced, is termed by its promulgator the *Alternation of Generations*. It is a modification of the generally received notions of animal metamorphosis, and maintains the necessity, in many cases, of a series of generations before the fully developed specific type is attained to. It is an example of metamorphic action, not of the individual, but of the race. The law of alternate generation declares that many animals may give birth to beings (*ammen*, "nurses") totally unlike the parent; that these may undergo a series of metamorphoses, but *never to such an extent as to acquire in themselves the parental form*; that this first generation, however, will produce a second, which, after undergoing metamorphoses, may assume the form of the original progenitor: or even that a third generation (*grossammen*, "parent-nurses"), will be needed before the acquisition of the perfect specific form.

In proof of this extraordinary announcement, of which, however, certain glimpses may be seen in the writings of several modern zoologists, our author adduces a multitude of well-arranged facts from his own observations, as well as from those of others.

The first chapter contains an account of the development of the *Medusa*, and consists chiefly in an exposition of the beautiful researches of the Swedish naturalist, Sars, into the generative phenomena of this interesting group of animals. The observations of Sars upon the development of *Medusa aurita* prove that this creature gives birth to minute bodies resembling infusory animalcules, which are no sooner liberated from the parent, than they swim freely through the surrounding water by the agency of vibratile cilia with which their entire surface is covered. After a certain time, however, these active embryos become fixed; and after passing through a gradual series of metamorphoses, assume the form of a hydroid polyp. The resemblance to a polyp, however, is altogether superficial; and Steenstrup has shewn that their anatomical structure is entirely referable to the *Medusa* type. At this stage the individual metamorphosis ceases, and the polyp-like *Medusa* now takes on a *reproductive* function. In the posterior part of the body new germs begin to be developed: and, indeed, the origination of these would seem to be the grand object of its existence. The polypoid *Medusa* has now performed the duties allotted to it in this singular history: it soon dies, and the germs to which it had given birth, becoming free, develope themselves by a series of true metamorphoses into the form of the adult *Medusa*. The

polypoid animals, then, are the "nurses," not destined themselves to acquire the form of the species, but having allotted to them the duty of originating *by generation* a set of new organisms, the true Medusa larvæ which are to assume in time the typical form of the species.

In the second chapter our author adduces examples of the same phenomenon from another class of invertebrate animals, the polypes. The claviform polypes, *Coryne* and its allies, and the bell-shaped polypes, *Campanularia*, afford the instances here brought forward, and the unexpected conclusion is arrived at, that *Coryne* is only the "nurse" of a free Medusa-like animal. Our author, moreover, is of opinion, that the whole family of claviform polypes is only a stage in the development of beings, which in their perfect state resemble Medusæ, and consequently that the genera *Coryne*, *Syn-coryne*, *Corymorpha*, must as such be abolished.

In the remarks upon *Campanularia*, the important researches of Sovèn upon the development of this polyp are largely availed of. In the cyclical development of *Campanularia* three distinct generations are produced, so that we have not only "nurses" (*ammen*), but the nurses of nurses, "parent-nurses" (*grossammen*). The perfect individual is a small, globular, egg-bearing cell, which after a time makes appearance on the summit of the axillary cells of the polypary.

In the third chapter we pass to the *Mollusca*, and here the generative phenomena of *Salpa* come under review. The fact originally observed by Chamisso, that the solitary *Salpæ* bring forth only concatenated young ones, while the concatenated forms invariably give birth to solitary individuals, is adduced as an example of alternate generation. Our author maintains that the solitary and associated forms are connected to each other in the relation of the "nurse" to the perfectly developed animal.

The conclusions arrived at with respect to *Salpa*, suggest the extension of the doctrine of alternate generation to *Botryllus*; and from the observations of M. Edwards on the young of this genus, it is deemed highly probable that we have here, as in *Salpa*, an alternation of solitary and associated individuals.

The remainder of the work is almost entirely devoted to the development of the *Trematode entozoa*, many of which present highly curious instances of the phenomena in question.

In the water in which the fresh-water mollusca, *Limnæus stagnalis* and *Planorbis cornea*, have been kept, there may

frequently be seen countless multitudes of the curious genus *Cercaria*. These possess the body of a *Distoma*, with the addition of a tail, which is not found in the last-mentioned genus: they look like minute tadpoles, and are exceedingly active little creatures, swimming about with the greatest agility, by the agency of their flexile and natatory tail. It is now certain that *Cercaria* is only the larva state of *Distoma*; but this is not all: our author brings forward a series of observations on the genealogical history of this entozoon, the substance of which we shall now, in as brief a manner as possible, lay before our readers.

The *Distoma*, or fluke, an entozoon, inhabiting the liver and other organs of various animals, and known to every one as an infester of the sheep, to which it is often very destructive, has been proved by our author, from his observations on those species which infest the fresh-water snails already mentioned, to give birth to an organic form totally different from the parent. This, like the parent *Distoma*, inhabits the snails as an entozoon, and never acquires the form of the animal to which it owes its birth. In process of time the formation of germs is observed to take place in its interior, and it soon brings forth a second generation, differing in many respects from itself and the original progenitor; within the bodies of this second generation, which, like the first, never acquires the typical form, a third generation may be observed to originate, which in time is brought forth in the form of the *Cercaria*, to which we have just alluded. These last escape into the surrounding water, eminently natatory animals, which have exchanged the entozoic habits of their progenitors for those of genuine infusorial animalcules. After thus enjoying a period of infusorial existence, they attach themselves to the surface of the mollusc, lose their tails, and throw around them a little cocoon of hardened mucus, within which they undergo a series of metamorphoses, gradually penetrating deeper and deeper to the internal organs of the snail, in which they are at last found to have acquired the form of perfect *Distomata*, thus completing in three generations their strange circle of development. The generative *cyclus* of *Distoma* will, consequently, consist of "parent-nurses," "nurses," and perfect *Distomata*, the last being, when they leave the "nurses," caudate natatory animals, constituting the genus *Cercaria* of former naturalists.

The only link deficient in the above chain of observation is that between the parent *Distoma* and the first generation

already mentioned: our author has not succeeded in witnessing the production of this first generation from the *Distoma*, and he is obliged to have recourse to the analogy of *Monostoma*, a *trematode* animal, inhabiting the cranial cavities of certain water birds, and which brings forth ciliated embryos undergoing a metamorphosis by which they become transformed into creatures closely resembling what have been here described as the first generation of *Distoma*.

After some general remarks, and a comparison of the law now stated with the reproductive phenomena presented by bees, ants, and aphides, our author institutes what we consider as a most beautiful application of the law of alternate generation, to the phenomena presented in the development of plants, where the original germ, the *vegetable individual*, is capable of producing beings which may, in their turn, give birth to forms resembling the primordial element of the plant-colony only by the intervention of a whole series of generations.

The work which we have thus noticed is copiously illustrated with figures, all accurate copies of the originals. Two out of the three plates which accompany the essay, are copied, as we are informed in the translator's preface, by means of the anastatic process; accuracy is thus ensured, though we can by no means look upon these plates as a successful application of the art.

In a word, we consider Steenstrup's work as one of the most important contributions which has for many years been made to zoological science, and must congratulate the English reader on the opportunity which is afforded him of becoming acquainted with its contents, through the labours of the invaluable Society to which we owe the present translation.

On Fever and Famine, as Cause and Effect in Ireland; with Observations on Hospital Location, and the Dispensation in out-door Relief of Food and Medicine. By D. J. CORRIGAN, M.D., &c., &c. Dublin: Fannin. 1846. 8vo. Pamphlet. pp. 33.

THIS pamphlet may be considered in a double point of view, as having reference to the social economy of a country, and of Ireland in particular; or as a medical work, the object of which is to discuss that *questio vexata*, the origin of epidemic fever. The author, in fact, handles both topics; and it is unnecessary for us to say that the opinions of one who has

added so much to medical literature as Dr. Corrigan, are deserving of careful and respectful consideration.

As to the cause and prevention of fever in Ireland, the author's opinions may be stated in two propositions. 1st, That as famine has always preceded fever in Ireland, we may conclude that it is the exciting cause of the disease. 2nd, That we can only hope for its prevention by warding off famine.

The question to be discussed is really not what is the cause of epidemic fever, considered in the abstract, but what is its cause in Ireland; and, in justice to the author, we must observe, that he nowhere declares that his opinions will apply to the general explanation of epidemics over the world. The objection has been raised to his views, that famine will not explain the great invasions of epidemic disease elsewhere, such as those of plague, cholera, small-pox, &c.; but he has not advocated any such doctrine, confining himself strictly to the case of Ireland. This he has a perfect right to do; and, on the other hand, the rise and progress of epidemics, independent of famine, must not be forgotten, when we look for general conclusions on the subject.

That the origin of epidemic disease is among the most obscure of all questions connected with natural phenomena, must be admitted; and, truly, we are still far from settling the question: but the general analogy of nature should lead us to hold, that epidemic disease arises from a combination of many circumstances, some manifest, others hidden.

The late Dr. Whitley Stokes, in his essay on contagion, published in 1818, makes the following remarks:—

“Some physicians, in arguing against the contagious nature of certain fevers, have ventured the adoption of a principle which appears to me very untenable, namely, that a disease can have but one cause; and hence they infer that the advocates of contagion, instead of supposing, as they do at present, that contagion is the general cause of fevers, with which famine, filth, damp, or cold co-operate, singly or collectively, should suppose that one only of these causes can be the true cause of every particular disease, and that the admission that the other causes contribute to disease, is, in fact, a confession that contagion does not. This supposition of a single cause of the effects we witness, is quite unsupported by nature. Every animal, every plant, every rock, requires for its production the co-operation of many causes that we know, and, most probably, of many more that we have not yet discovered.”—
p. 25.

The authorities principally quoted by Dr. Corrigan, in support of his views, are the old works of Drs. Rogers,

Rutty, O'Connell, and the reports of Drs. Cheyne and Barker. But he has not mentioned later authorities, who have written not only on the subject of fever in Ireland, but also on the general question of the connexion of famine with epidemic disease. Of these, we would place in the first rank the name of Dr. Graves, whose recently published work on clinical medicine contains a mass of information on fever generally, such as is to be found in no other work with which we are acquainted. After the matured experience of this eminent physician, he thus writes :

"Before entering on the treatment of typhus fever, I wish to make a few preliminary observations upon its nature and peculiar characters. In the first place, typhus fever is endemic in this country : at no period, from the earliest records down to the present, has it been entirely absent, a fact of which you can easily satisfy yourselves by consulting our old authors, and by referring to the annual reports of the fever hospitals established through different parts of Ireland. Fever, as I have said, is always endemic in Ireland ; but occasionally for one year or one season, or a succession of years or seasons, it becomes much more than usually rife, and then is said to be epidemic. In my report of the fever which devastated the west of Ireland in 1822, I advanced the opinion that such epidemics are brought on by a great dearth of provisions, and their unwholesome quality. These are, no doubt, aggravating circumstances, but that they are not the sole or even the chief causes of typhus epidemics, is evident from what I have frequently witnessed, viz., the occurrence of fever epidemics during years of plenty, of which 1826 was a remarkable example.

"That fever, in Ireland at least, depends on some general atmospheric change, which affects the whole island simultaneously, independent of situation, aspect, height above the level of the sea, dryness or moisture of the soil, or any other circumstance connected with mere locality, is proved by the fact, that when typhus begins to increase notably in the Dublin hospitals, we may always rest assured that a nearly simultaneous increase of fever will be observed in Cork, Galway, Limerick, and Belfast, as I have on more than one occasion ascertained by writing to the physicians of fever hospitals in those cities."—pp. 41, 42.

"In making this statement, you are aware that I am opposing the usually prevalent opinion. The grounds for my dissent have been partly explained to you already, for, according to my observation, the increase or diminution of fever in Ireland arises from some unknown general atmospheric, or, if you will, climatic influences, quite independent of locality ; and, consequently, the most improved and thoroughly drained towns and country districts, are quite as liable to epidemics of typhus as are the most neglected and marshy parts of our island. The causes which occasion these epidemics are, on the other hand, in no way connected with notable variations in the

seasons, for with us the ravages of typhus are observed sometimes in dry, sometimes in rainy seasons, and its epidemics appear quite uninfluenced either by the cold of winter or the heat of summer."—p. 45.

We may next mention among the authorities omitted by Dr. Corrigan, the statistical reports of the late Dr. Cowan of Glasgow, documents, the great importance of which are generally admitted. They have a direct bearing on the connexion of fever and famine. Dr. Cowan shews, that the annual average of typhus in Glasgow, with a population of 200,000, for a period of seven years, was 1842 cases, while in Manchester, with a population of 226,000, it was for the same period only 497 cases; in Leeds, with a population of 127,000, only 274; and in Newcastle, with a population of 58,000, only 39. The contrast between Glasgow and Manchester is of great importance, for if the fever in Glasgow, a city depending on nearly the same manufactures for its resources and rate of wages as Manchester, was produced by want, it is almost certain the same pressure of disease would have affected Manchester also. If we refer to the Census of Ireland, published in 1843, and extending over a period of ten years, we find that the greatest mortality from fever was in 1836, and likewise in 1837 and 1840.

There was no famine in Ireland in 1837 and 1840, yet, in the hospitals alone, the mortality in the two latter years nearly doubled. Dr. Corrigan has given authorities for most of his statements; but referring to the connexion between the state of the crops and fever in 1798, he omits civil war as a cause of pestilence; and he gives no authority for the state of the crops in 1799, 1800, or 1825, and 1826. We object strongly to the employment of mere asseveration, more particularly when under a statistical garb; and we refuse to receive as evidence, not only the rough guesses of writers, but statistical statements, the sources of which are not clearly stated. This fault has been too common among writers on these subjects;—but we confine ourselves to Ireland and the immediate subject of fever. One of the first guesses of this description was made by Rutty with regard to the great epidemic of 1740. He computed the mortality at one-fifth of the whole population; while O'Connell, an equally accurate observer, and possessing the same means of acquiring information, states the number to be about 80,000.

In 1830 it was stated to the Committee of the House of Commons, that 65,000 died of fever in 1817; again, Drs. Barker and Cheyne attest, that in the epidemic fever from the end of 1817 to 1819, assuming the population of Ireland

state, that a million and a half of persons suffered from an attack of fever in one year. On all these statements we have but one observation to make, that unless where the means of obtaining the information is expressly stated, they are entirely unworthy of credit. The means of obtaining accurate information were wholly wanting; and with regard to the earlier notices, when we consider the state of Ireland 100 years ago, with scarcely any roads, most imperfect communication, no police, and a very scanty supply of medical men, we must receive with great distrust all those statements.

“How much reliance can be placed on rough guesses of this description may be gleaned from the statistics of mortality now (1843) recorded, which, whatever may be their intrinsic value, have certainly been obtained from sources such as were not, and could not, have been had recourse to by persons who offered these conjectures; the whole amount of fever in Ireland for ten years, both in and out of hospital, not being much above 112,000; and cholera, in its three years’ progress, carried off little more than 45,000.”—*Irish Census for 1841, Mr. Wilde’s Report*, p. xxii.

From the same record we learn that, during the last century, outbreaks of epidemic disease (principally fever) appeared in 1708, 1718–21, 1728–31, 1740–43, for which periods there is positive medical authority; from which it would seem as if these affections returned at particular periods, and with certain definite intervals, the intervals being on the average of about ten years. Subsequent to 1743, we have no medical record of the state of disease in Ireland for a period of twenty years; but it is remarkable that, at its next recorded appearance, it occurred about the period it would have occupied had it gone on in regular decennial succession; thus, it is noticed in 1763, and then we had it in 1771–73, and from 1798 to 1802 or 1803.

That famine occupies an important place among those disturbing causes which induce fever, we are far from denying; that it is its sole cause in Ireland or any other country, medical and general history seem to disprove. We think the bounden duty of government is to prevent by all means in its power the occurrence of famine, as well as other great social calamities; but we do not think that our author has made out his case, when he declares, that if there be no famine there will be no fever. In the recommendations which Dr. Corrigan has given, as to providing sufficient medical relief for fever patients in Ireland, we fully concur; and we are rejoiced to find that he has altered the opinions which he lately held on the subject of connecting medical and poor-law relief.

PART III.

REPORTS, RETROSPECTS, AND SCIENTIFIC INTELLIGENCE.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

THE CIRCULATING SYSTEM.

1. *Fatty Degeneration of the Heart.*—A man, 50 years of age, was admitted into the Meath Hospital under Dr. Stokes's care, but at the time of his admission appeared to be suffering more from simple debility and the want of proper nutriment and comfort than from any actual disease. He had no febrile symptom, his countenance was haggard, and his pulse very weak. He was ordered good diet, and appeared much improved in a few days; but at this time it was observed that there was a degree of dulness at the posterior part of the left chest inferiorly, and this dulness disappeared when the patient was placed on his hands and knees. It was evident from this that there existed a partial hydrothorax on this side.

This man always experienced great distress from the least exertion; even sitting up in bed made him exceedingly faint, and it required a most liberal allowance of wine to arouse him from a most lethargic condition. The action of the heart was feeble, both its sounds were audible, though very weak, and there was no bellows murmur nor other abnormal sound. This patient died suddenly, and without a struggle. The body was examined after death. The lungs themselves were free from disease; there were no adhesions; but in the left pleura was a quantity of serous fluid. The heart at first appeared to be very large, but this was more apparent than real, and was owing to a great deposition of fat about the pericardium. The sac of the pericardium was obliterated; the left ventricle was very large and dilated; but the membrane itself was greatly thickened; pulse during life was small and very easily compressible; the muscular substance of the left ventricle was very flabby; that of the right ventricle was in a state of atrophy, and fat had been extensively deposited on its exterior. There was no valvular disease, but fat had been deposited about

the origin of the chordæ tendineæ. This fatty degeneration of the heart had been described by Mr. Adams, who has published two cases of it in the fourth volume of the Dublin Hospital Reports. Such cases are very remarkable on account of the symptoms during life. There are generally apoplectic attacks, very frequently repeated—four occurred in one of Mr. Adams's cases, that of a gentleman, aged 60; and in the other case, which had been communicated to Mr. Adams by Dr. Duggan, so many as twenty distinct apoplectic seizures were observed.

The condition of the circulating system, in subjects affected by this disease, is very different from what one would expect to find in a person subject to apoplectic seizures.

With respect to the pathology of this affection, Dr. Stokes was of opinion that it was generally to be referred to a morbid condition of the blood. Mr. Robert W. Smith had found, in many cases of this remarkable degeneration of the heart, a quantity of free oil in the blood(*f*). Mr. Smith's observations upon the subject were so interesting and ingenious that he trusted the Society would excuse him for referring to them at some length. That gentleman observes: "The investigation of the nature and causes of this remarkable lesion of the circulating system may, perhaps, receive some elucidation from certain facts respecting the composition of the blood and the secretion of adeps, which have been ascertained by physiologists. We know from the investigations of Lecanu and Babington that oil and fatty matter are always present in the blood; that, in fact, oil is a necessary constituent of that fluid.' 'At all events,' as the latter writer remarks, 'it is found in sufficient quantity in all cases to merit the attention of the physiologist, and cannot, except when the serum is opalescent or milky, be justly considered as the consequence of disease.' It is scarcely necessary to add, that if the oil be found free, uncombined, and floating upon the surface of the blood, it must of course be considered as the result of disease. We likewise have reason to believe that fat is a secretion from venous blood principally; that it is formed in the course of the circulation, and deposited from the sides of the vessels, more especially the veins; we find it formed most abundantly whenever the venous blood bears a large proportion to the arterial; while, on the contrary, in animals, in which the arterial blood is more abundant, fat is rarely deposited in any quantity. I may also notice the curious observation of De Blainville, who, while dissecting an elephant that had died apoplectic, found that the blood which flowed from the jugular vein deposited after a short time a quantity of white greasy matter, which, by analysis, he found to be perfectly-formed fat. It is equally well known that whatever lessens the activity of the circulatory system also tends to induce a state of adipose plethora; when, as Richeraud remarks, 'the sanguineous system is languid, there is formed a gelatinous fat, and the *embonpoint* is a mere state

(*f*) See Dublin Journal, vol. ix.

of bloatedness." In fact, in all such cases, the assimilating functions are weak and performed with difficulty. Bearing these circumstances in recollection, we may, I conceive, look upon the depositions of a pale gelatinous fat as indicative of the result of enfeebled powers of assimilation and deficient energy in the circulatory system, for between the two there is a constant relation, and, if the presence of free oil in that system is to be considered as denoting a superabundance of venous blood, we have then another cause, which, in addition to the peculiar state of the heart, we may adduce to explain the occurrence of apoplectic symptoms in such cases. It is a disease, generally speaking, of advanced life, and produces sudden death, either from rupture, or by inducing an apoplectic state; and it is singular that conditions of the heart, so opposite as hypertrophy and atrophy, should both induce apoplectic symptoms. The explanation of these facts, as Mr. Adams has observed, will probably be found in the reflection that anything occasioning an undue distension of the vessels of the brain may be followed by apoplexy. This over-distension may arise from the impulse *a tergo* being preternaturally strong; or, on the contrary, it may be the result of some obstruction in front, as that arising from a contracted arterial opening, or from some state of the ventricle, incapacitating it from emptying itself with sufficient quickness to relieve the brain; so that, although the quality of the blood may have some influence, it is probable that the principal causes determining an apoplectic attack, when the heart is either actively enlarged or in a state of atrophy, are mechanical, and referable to circumstances in the heart, directly or indirectly producing a state of congestion of the vascular system of the brain." Dr. Stokes remarked that the circumstance of the fatty degeneration of the heart being in general most remarkable in the right side of that organ, tended to confirm the observations and opinions of Mr. Smith, to which he had referred.—25th November, 1843.

2. *Hypertrophy with Dilatation of the left Ventricle, in an anæmic Subject.*—Dr. Stokes brought the following case before the Society. A boy who died in the 19th year of his age, had laboured for many years, almost from childhood, under the infirmity of involuntarily discharging his urine at night, for which medicines and various expedients of treatment were used without success; he was not relieved from this even at the period of puberty, and, being of delicate feelings and habits, his mind was preyed on by the anxiety caused by this troublesome complaint. It was but lately that Dr. Stokes had an opportunity of seeing him; his countenance then was anxious, and his general aspect anæmic; his colour was a whitish yellow; the lips were blanched; he had frequent palpitations; there was no bruit, but there was strong confused action of the heart, like what is often met with in very old persons; sometimes there was strong impulse; the pulse at the wrist was always irregular; the quantity of blood in the body was evidently small, but there was a copious secretion of urine, which was frequently discharged. Much was not expected from treatment at this period: leeches were applied to the præ-

cordial region, and considerable hæmorrhage ensued from the bites; afterwards a small blister was applied, this was followed by an eruption of numerous small phlegmons, which were very painful; after these were relieved, he improved, but the improvement was only temporary; he fell suddenly into convulsions and died. When the body was examined after death, the anæmic condition was very remarkable; the amount of blood was very small; there was hypertrophy with dilatation of the left ventricle, and the aortic valves were cribriform. As to the nature of this lesion, it is questionable whether there was a sufficient amount of perforation in the valves to allow of regurgitation. The heart is often of a very small size in extreme cases of phthisis, and this has been explained by supposing that the organ diminishes in proportion to the amount of the circulating fluid; but the present case was contradictory to that view; it is much more probable that atrophy of the heart in phthisis is, like that of the stomach and uterus, so often observed in the same disease, one of the numerous lesions produced by phthisis, and may be attributed to it without any reference to the quantity of the blood circulating in the system.—*20th January, 1844.*

3. *Opening in the interauricular Septum; eccentric Hypertrophy of left Ventricle; Dilatation and Hypertrophy of left Auricle; concentric Hypertrophy of right Ventricle, with Contraction of the Opening into Auricle; Effusion into Pericardium.*—Dr. Law presented a preparation shewing several lesions of the heart. The subject, a male, æt. 22, was admitted into Sir Patrick Dun's Hospital under Dr. Barker, affected with anasarca and violent action of the heart: he said that he had never had rheumatism, and he attributed the origin of his complaint to a fall that he sustained eleven months ago. Dr. Law saw him but once. The countenance of this patient was not suffused or congested, the impulse of the heart was strong, the first sound of the heart was accompanied with a bruit, audible anteriorly, in a situation corresponding to the mitral valve, and also external to that point, along the side; there was also frottement anteriorly. Pneumonia supervened while he was in hospital, and he died. The examination after death detected slight effusion into the left pleura and into the peritoneum; the inferior part of the right lung was hepatized; the pericardium contained about twelve ounces of fluid; and there was a film of lymph on the surface of the heart; there was enormous eccentric hypertrophy of the left ventricle; the aortic valves were perfect, but the mitral valves were enlarged, and the carnae columnæ hypertrophied. Dr. Law had attributed the bruit to disease of the mitral valve, and regurgitation of the column of blood; but here the left auricle and the aorta were enormously dilated and hypertrophied, and the auriculo-ventricular opening enlarged. There was a different state of the other side of the heart; there was concentric hypertrophy of the right ventricle; the right auricle was small, and the opening into the ventricle contracted. On cutting into the cavity of the left auricle a large opening was discovered in the interauricular septum, but distinct from the foramen ovale which was closed; the diameter of the abnormal opening was ten or twelve

lines, and its existence explained all the phenomena of the case, the pulmonic circulation having been only a fraction of the whole, and the several cavities and vessels having been adapted to the quantity of their fluid contents.

The subject of the present case had been always delicate, he had curved spine and prominent sternum, but had enjoyed good health until he was fourteen years of age. The only peculiarities which were remarked were, that he was very somnolent, and that the surface of his body was colder than natural, but of this he was not himself conscious.—20th April, 1844.

4. *Endocarditis in Progress of Cure*.—Dr. Corrigan observed that we very rarely have an opportunity of actually seeing the effects of remedies on disease of internal organs, except in the instance of iritis; he was therefore glad to be able to lay before the Society a specimen shewing the results of endocarditis relieved by treatment.

The subject of it, a man *æt.* 41, was admitted into the Whitworth Hospital on the 10th of February, 1844. The account which he gave was, that eight weeks previously, after having been at work, he was seized with pain in the region of the heart with dyspnœa and orthopnœa, and that in the last week his feet and legs became œdematous; on admission, his respiration was very difficult, and he still required to be supported in the erect position; he had pain in the epigastrium and præcordial region, his pulse was feeble, his respirations about forty in the minute, and over the region of the heart there was bruit de soufflet. His symptoms indicated either endocarditis or pericarditis, but as there was no dulness on percussion, no frottement, no evidence of lymph or fluid effused, the disease was more probably endocarditis. He was treated by stimulants, together with mercurials and opium; he was relieved as soon as he became mercurialized. On the 24th of February the heart symptoms were completely relieved; there was no bruit, and there was also no dyspnœa, but the gums were ulcerated from the use of the mercurials; the interior of the mouth gradually passed into a sloughing state, which could not be checked; the teeth fell out; mercurial erethism affected the system, and the patient died from the effects of the mercury on the 5th of April.

Post Mortem.—The pericardium and external surface of the heart and its tissue were sound. The state of the valves was very interesting. Dr. Corrigan contrasted the valves of the heart in this case with the valves of a perfectly healthy heart. In the perfectly healthy heart the aortic valves were of the well-known transparent polished texture; in this the corresponding valves felt and looked like two layers of thin, pulpy, opaque parchment laid upon one another; and the mitral valves were in a similar state, arising apparently from an effusion of lymph between their folds. Dr. Corrigan observed, that he thought there could be no doubt this was a case of endocarditis in progress towards recovery, from the action of mercury; that it confirmed Bouilland's opinion of effusion of lymph being the first stage of valvular disease; and that the case shewed us how long the lymph deposited on the valves may remain in a state capable of

absorption, and should encourage us to persevere in our efforts to obtain its removal for a period of time much longer than might at first seem to permit us to entertain a hope of success.—20th April, 1844.

5. *Endocarditis*.—Dr. Corrigan said it might be remembered that at the last meeting he had presented specimens taken from the body of a man who had been affected with endocarditis, and who had died of another disease: he had now to present specimens, shewing the results of an endocarditis which had originated within an ascertained period. Numerous cases of organic disease of the heart have been recorded, but with a view to practice this one is interesting. The subject, a man æt. 23, a sailor, hurt the left side of his chest by falling into the hold of a ship four years ago: he had pain, palpitations, and other symptoms resembling those in the case related at former meeting. After recovering from that attack he went to sea, from which he returned home labouring under gastro-enteritis with disease of the spleen, and Bright's disease of the kidney. After being nearly a year in hospital he died a few days since. On examining the heart, it was found that the sigmoid valves were thickened, and were covered with fimbriae of lymph; two of the valves had been converted into one. It is observed that in all these cases there is but an inch, or three-quarters of an inch, of the aorta engaged; the subserous tissue is thick, softened, and inelastic. Bouilland has observed, that all the lesions which commence in endocarditis remain for a long time in a state amenable to treatment, an observation which is confirmed by the results of examinations of the bodies of those who have suffered from that disease.—27th April, 1844.

6. *Pericarditis with Pleuritis*.—Dr. Corrigan presented a preparation of pericarditis of a duration rarely met with, the disease having lasted in this case three or four months. Inflammation of the pericardium is usually seen in the acute form, which rapidly terminates in death or in the formation of adhesions. The subject of the present case, a railway labourer, had been six weeks ill previously to his admission into the Whitworth Hospital on the 30th of October, 1843. He died on the 1st of January, 1844. Thus the duration of the illness is determined. At the time of his admission he was in a state of extreme debility; his lips were livid, the surface generally cool; breathing oppressed; pulse feeble; he had pain in the epigastric and hypochondriac regions. The chest sounded dull on percussion over the whole extent of the sternum, in the axilla of left side, and beyond the sternum on the right side, as far as the junction of the cartilages to the ribs. The symptoms resembled those of pleuritis with displacement of the heart, but the heart was not pushed towards the right; there was no perceptible impulse, nor was there any bruit audible or any friction sound, whether the patient was in the erect or in the recumbent posture; no change of position had the effect of manifesting either bruit or friction sound. The examination was repeatedly directed to ascertain this, because in some cases the friction sound becomes audible only while the patient lies on his back, while in others, on the contrary, the bruit is not affected by change of position. In this case the pain in the sides of the chest

had occasional remissions and exacerbations; the dulness in the left side was persistent; and the diagnosis formed from the symptoms was that there existed both pleuritis and pericarditis. This patient's death was sudden, as usually happens in such cases. In the examination of the dead body, the pericardium, swollen with fluid, was observed occupying the anterior part of the thorax, and pushing the lungs to the right and left. The appearance of the thorax, when just opened, and whilst all the contained parts were yet undisturbed, was preserved in a cast made by Messrs. Faucett and M'Dermott, which was now on the table. In the left pleura there were some recent adhesions and some sero-purulent fluid. In the pericardium there was a considerable quantity—at least three pints—of a dark-coloured serous fluid, without any purulent admixture. The heart was a good example of what has been styled the pine-apple heart. A section of it shewed that the valves on both sides were sound, and the muscular tissue unaltered. At the base of the heart there were some adhesions uniting the opposite surfaces of the pericardium; the effusion into the sac had prevented any extensive adherence, and had also been the cause of the absence of the friction sound, by preventing contact of the rough surfaces. Doctor Corrigan considered the case to prove that, even at a very late period of pericarditis, recovery may yet be possible, for in this instance there was not such an amount of organic change as to render it impossible. The bad constitution of the patient, and his having had frequent attacks of pleuritis, had contributed greatly to produce the fatal termination.—13th January, 1844.

7. *Cancerous Tumour in the anterior Mediastinum, compressing the superior Cava, and penetrating into the Pericardium; Cancerous Infiltration of the Lung; Malignant Tumour above the right Clavicle.*—Dr. Law presented a specimen of cancerous disease situated in the lung and anterior mediastinum. For this specimen he was indebted to Doctor Osborne. It was taken from the body of a female, a servant, æt. 56, who was in such a state of suffering at the time of her admission into Sir Patrick Dun's Hospital that but a slight examination could be made. She had been in apparent health until three weeks previously, when she was seized with a sudden sense of suffocation, and her face became livid and discoloured. When she was admitted into hospital her face was livid, and, together with the entire of the head and neck, greatly swollen; the upper part of the trunk and the upper extremities were œdematous. She had an urgent sense of suffocation or strangulation, from which she was relieved only while lying prone or stooping forward. Just above the right clavicle, and towards its humeral extremity, there was felt a tumour of an oval figure at the sternum; and under the clavicles the chest sounded dull, but this dulness was considered to be caused by the œdema of the integuments; there were bronchitic rales over the posterior part of the chest; the pulse was very feeble. This patient was first treated with stimulants, and then leeches were applied to the throat, by which some relief was obtained; then calomel and squill was administered; the mouth became sore, but the tension and swelling of the neck

remained and increased; the breathing became stridulous; she had cough with slight expectoration, difficulty of breathing, and sometimes difficulty of swallowing. She now lay prone constantly; leeches were again applied, but gave only slight relief; the symptoms increased, and she became delirious two days before death. When the body was examined, attention was first directed to the supra-clavicular tumour. Externally it was firm, but, on being cut into, the interior was discovered to be soft, and of a creamy consistence at the centre. On raising up the sternum with the cartilages of the ribs, a large tumour was observed, situated behind the superior third of the sternum, surmounting the heart, and extending down beside it into the right lung, to which it gave a firm hard feel; a section of the lung shewed that it was interspersed with hard cancerous tumours, which were soft in the centre; in addition to this the lung itself was solidified, and infiltrated with cancerous matter; the large tumour was traversed by the superior cava, which emerged from it so reduced in calibre that it would merely receive a goose-quill just below the tumour; the vena innominata was obliterated; the arteria innominata passed through the tumour; the cancerous mass passed behind the arch of the aorta into the pericardium, which it perforated. In this circumstance this specimen differs from all those of a similar kind which have been described by Mr. R. W. Smith, who has remarked that he has never seen an instance of the malignant mass penetrating the pericardium. A case resembling the present, but in which the tumour was towards the left side, has been already described by Mr. Adams. In the present instance the symptoms were all accounted for by the lesions detected in the examination after death. The difficulty still remained of forming, in cases of intra-thoracic tumours, an accurate diagnosis between aneurism and malignant growths. The results of pressure on some important internal organ are generally the first symptoms which attract notice in these cases; in the present case the subject of it continued at her usual employment as a servant up to three weeks before she was brought into hospital, and she had no symptom that attracted attention till the sudden accession of a sense of suffocation, accompanied by tumefaction and discolouration of the face. Dr. Law had observed similar lividity and swelling of the face in a case of aneurism which he had communicated at a former meeting, and in both cases the discolouration disappeared after death. The present is the third instance of this kind which has been produced to the Society. One has been communicated by Dr. O'Ferrall, who inclines to consider the presence of bruit as diagnostic between aneurism and malignant tumour within the thorax; but in this opinion Dr. Law's experience does not as yet lead him to coincide. The diagnosis, in the present case, might have been assisted by the supra-clavicular tumour if the patient had been in a state to bear a complete examination, and had not died so soon after her admission.—*20th January, 1844.*

8. *Aneurism of the Arch of the Aorta, compressing the Œsophagus, and perforating its Parietes.*—Dr. Stokes exhibited the recent parts in

the case. A man, thirty-nine years of age, of temperate habits, was attacked in May, 1841, with pain in the lower part of the back, and about the false ribs; it came on rather suddenly, resisted the treatment appropriate to internal aneurism, and after some time became fixed about the eighth dorsal vertebra. The surgeon under whose care he was, suspected the disease to be caries of the vertebræ; a consultation was held with one of the most eminent surgeons in the metropolis, and it was determined to insert issues on either side of the spine; it is an interesting fact, that the symptoms improved, when the issues began to discharge. In a few months spasmodic cough came on, accompanied with a crowing sound; there was dyspnoea, aggravated by exertion, or by standing unsupported, but which was relieved by the use of crutches, or by leaning forwards. The next symptom was dysphagia. There was no acceleration of the pulse, nor increased impulse of the heart. Sir Philip Crampton and Dr. Stokes now saw him; the surgeon in attendance had previously remarked that there was a bruit in the anterior part of the chest on the left side. The breathing was now stridulous, *from below*, the obstruction, whatever it was, being tracheal, not laryngeal; the pulse at the left wrist was feeble, at the right it was large and full; under the left clavicle, and in the supero-anterior portion of left side, the chest gave a dull sound on percussion; there was a diastolic throb perceptible by the hand, and a bruit de soufflet was audible, but the intensity of these phenomena diminished towards the cardiac region. The diagnosis formed was, that an intra-thoracic tumour existed, but whether this was aneurism or pulsating cancer of the lung, could not be positively determined; it was more probably aneurism, because the hand, pressed closely against the parietes of the chest, felt a strong diastolic pulsation (which has been designated *coup de marteau*). It was agreed that the case was most probably one of aneurism. Some time after this diagnosis had been made, all these physical signs began to disappear; the chest sounded clear; the pulse at the left wrist became developed and natural, like that of the opposite side; the soufflet was no longer audible. During the entire of last winter the patient was free from distress, except when the discharge from the issues became scanty or interrupted. Early in the spring of 1843 the dysphagia returned, and in an intense degree; the food did not appear to get into the stomach, but was rejected after remaining in the œsophagus for some time. The patient was brought back to town in a state of inanition, and Dr. Stokes then saw him again, with the surgeon who was at first in attendance; he had no physical sign of aneurism, or of any tumour within the thorax; the issues were reopened; he was relieved of the dysphagia; but on the 15th of April he was attacked by diphtheritis, a bronchial affection came on, and he died asphyxiated. The results of the examination after death, which was made by Mr. Smith, were these:—The heart was free from disease; there was a very large aneurism in the commencement of the descending portion of the aorta; this aneurism was filled with solid coagula; the bodies of four dorsal vertebræ were eroded; the left bronchus and

the œsophagus were strongly compressed by the aneurismal tumour; and both these tubes were perforated, the bronchus by one opening, the œsophagus by two, one placed at each side, and nearly opposite to each other; the perforation and approximation of the sides of the tubes formed a kind of canal (obliquely placed, and somewhat valvular), which communicated with the aneurismal tumour; its termination in the latter was closed by the coagula of the sac; there had been no hæmoptysis at any time during the progress of the case; the aorta itself was thickened, and had atheromatous depositions within its coats, where there was also some purulent secretion; in the apices of the lungs there was calcareous matter and chronic tubercles. What was most singular in this case was the retreat of the aneurism from the anterior parietes of the thorax; it was very difficult to explain this, except by referring it to the erosion of the vertebræ, by which increased space was gained. Another remarkable circumstance was the cessation of the stethoscopic phenomena, of which there is no other instance known; this cessation of physical signs of such value is certainly humiliating to us as professors of diagnosis. The intermission of the stridor and of the dysphagia is not so novel; these symptoms were not constant in this case, and the intermissions followed the discharge from the issues. It would appear that the sufferings of organs are more connected with their vital than their mechanical state. The last circumstance to be adverted to was the difficulty of making the diagnosis between aneurism and pulsating cancer; this difficulty would be diminished by observing that cancer is either stationary or progressive, but never retrograde; there is no instance of its existing so close to the parietes of the chest as to produce physical signs that might be attributed to aneurism, and then disappearing, as the aneurism in the present case had been observed to do to a certain extent.—*21st April, 1843.*

9. *Double Aneurism of the Aorta.*—Dr. Green presented specimens belonging to a case in which both the thoracic and the abdominal aorta were affected by aneurism. The subject was a man of thirty-nine or forty years of age, very much emaciated and run down, with an expression of countenance indicating that he was suffering from organic disease. On examining him after his admission into the hospital, it was observed, in the first instance, that the sternum was very prominent, and that its upper third was heaved forward by an internal pulsation. The respiration was tracheal and loud under both clavicles; there was evidence of tubercular deposition in the lungs; there was a bruit de soufflet at the region of the aortic valves, which could be traced upwards to the upper third of the sternum, where it was very perceptible, and from which point it gradually diminished in loudness; this bruit having *two* points of greatest intensity, between which it was capable of being traced. The voice was raucous, changed not in strength, but in intonation. This change in the voice was explained afterwards by finding the aneurismal tumour pressing on the trachea at its bifurcation. Dr. Green observed, that alteration in the tone of the voice is produced by the indenta-

tion of the trachea effected by the pressure of a tumour on its parietes; but that pressure on the recurrent nerves is also one of the causes capable of producing aphonia. Bonetus, in his *Sepulchretum*, has given from Willis a case of aphonia caused by a tumour compressing the left recurrent. In the present instance there was no difference in the recurrences of each side. In this patient there was also a visible pulsation of all the arteries near the surface, and the examination of the heart after death corroborated Doctor Corrigan's opinion that this visible arterial pulsation is connected with a permanently patulous state of the aortic valves. The pulse was the same at both wrists; and this was afterwards explained by finding that the thoracic aneurism engaged only the ascending portion of the aorta between the heart and the origin of the vessels given off from the arch, but without affecting the origin of these vessels. When the patient was stripped for more complete examination, a pulsation was observed below the ribs at the right side; the stethoscope applied beside the spinal column detected another bruit de soufflet, or rather bruit de râpe, at a point between the tenth and eleventh dorsal vertebræ; the parietes of the abdomen were visibly distended by an eccentric pulsating force, and the superficial veins were congested. As to the sensations of the patient, he suffered very little pain, certainly none of the severe and boring pains which other patients, labouring under aortic aneurism, often endure. This peculiarity of the present case was attributable to the tumours having proceeded from the anterior aspect of the vessel, so that there was no erosion of the bodies of the vertebræ. This also accounted for the absence of other usual symptoms. Thus there was neither numbness nor œdema of the limbs; no dysphagia, the œsophagus being not at all compressed; no constipation, the colon not being attached to the abdominal aneurismal sac; the ureters also were free.

Dr. Green said, that, besides describing the morbid changes of structure and pointing out their connexion with the symptoms during life, he wished also to make a remark as to the plan of treatment he had adopted. The patient, when brought into the hospital, was in a state nearly moribund; he thought, therefore, that a cordial and tonic plan might be of use. He gave four ounces of wine, with animal food and tonics, which was so successful that the patient felt greatly relieved during three weeks, and in fact lived a month after his admission; while it was evident that, if Valsalva's plan had been adopted in this stage of the complaint, he would have sunk immediately. Notwithstanding the generous diet which was used, there was very little fibrin found in the aneurisms. During Valsalva's mode of treatment the fibrin itself is often absorbed, and the curative process defeated. Dr. Green would conclude that, when the radical cure is impossible, debilitating means may still be more objectionable than the opposite.—25th November, 1843.

10. *Aneurism of the Aorta within the Thorax, opening into the Lung*.—Dr. Lees presented a recent specimen of aneurism of the arch of the aorta, adherent to, and finally communicating with the

lung. It was taken from the body of a woman æt. 62, who had been an inmate of the South Dublin Union for two years, during which period she had, in all appearance, enjoyed good health up to the morning of yesterday (6th December), when she suddenly became unwell; about ten minutes after breakfast she complained of a sense of tightness and oppression across her chest, then coughed up about six ounces of florid blood, fell backwards, and died almost immediately. All this occurred within so very short a period, that Dr. Lees, who was sent for when she first complained, found her already dead when he arrived in the ward. The examination of the body was made this morning. The lungs were found universally emphysematous, so as completely to fill the chest and conceal the heart from view. The left lung, when cut into, was found infiltrated with blood, and at the apex it was adherent to the transverse portion of the arch of the aorta, which in this situation was greatly dilated, so as to form a large sac, the outer and anterior parietes of which were formed by the lung, and lined by a smooth membrane, the pleura pulmonalis, while the interior of the artery was rugous, and contained within it atheromatous deposition; the bronchial tube, into which the aneurism had opened, could not be detected. There was no blood extravasated into the pleural cavity, nor was there any rupture of the aneurism in that direction. The vertebræ were quite sound. What was peculiar in this aneurism was the mode of communication with the lung, the generality of such aneurisms opening into the trachea. 7th December, 1844.

11. *Aneurism of the Abdominal Aorta, between the Crura of the Diaphragm.*—Dr. Law presented specimens of two cases of aneurism of the abdominal aorta, one of which sprung from the anterior, the other from the posterior wall of that vessel.

The subject of the first case, a man æt. 33, a shoemaker, described himself to have been suffering from pain in the back since a period of fourteen months before his admission into Sir Patrick Dun's Hospital; the pain was felt as if passing up and down along the spine, and sometimes extending towards the stomach; the pain had variations of intensity, and was sometimes very distressing; three months before his admission, he, for the first time, perceived a pulsating tumour in his epigastrium; when the stethoscope was applied there, a pulsation was observed, accompanied by a soft bellows murmur. In the hospital he was relieved by opiates and aperients; but after some time these lost their effect, and he died suddenly after a paroxysm of severe pain. On opening the abdomen a considerable effusion of blood was observed extending from the spleen downwards to the pelvis and groin; the coagulum formed a mould of the parts on which it lay, including the left kidney, which was enveloped almost completely in it; the aneurismal tumour lay on the artery between the crura of the diaphragm, and the pancreas lay immediately upon it.

12. *Aneurism of the Abdominal Aorta, on its posterior Wall eroding the Bodies of three Vertebrae.*—The other case was that of a man admitted into Sir Patrick Dun's Hospital on the 26th September,

1844; he complained of pain extending from his loins to his left knee, and described it as aching, with occasional darting; from the history and symptoms it appeared to be sciatica. Leeches were ordered to be applied to the painful part, along with the use of purgatives and anodynes. At one of the visits Dr. Law had directed cupping, but the patient was so averse to this being performed that it was omitted, and a more minute examination of the case ensued. A soufflet, but without any tumour, was then detected in the epigastrium; in a few days after this he complained that the pain was now more in his back, and soon afterwards a heaving motion was felt in his left side; he survived this symptom but three days, dying suddenly in syncope. On opening the body, an extensive effusion of blood was observed to have taken place into both sides of the abdomen, enclosing the left kidney and infiltrating the psoas of both sides. The opening was in the posterior wall of the artery, at a point immediately opposite the origin of the celiac axis. The bodies of three lumbar vertebræ were eroded, but no distinct aneurismal sac could be detected, only the orifice in the artery being observable. Having pointed out the lesions of the artery, Dr. Law proceeded to observe, that in the case produced by Dr. Stokes at a previous Meeting [*vide* Proceedings of 14th December, 1844], where the aneurism proceeded from the anterior wall of the artery, the subject was never completely free from pain, yet he had never described it as being a *boring* pain, a character which Dr. Law has observed always given to the pain in cases where the vertebræ are eroded; the other descriptions of pain are met with when the vertebræ are not engaged; more extended observations might confirm this as a pathognomonic symptom, which all the cases examined by Dr. Law tended to establish.—21st December, 1844.

13. *Dry Gangrene of the Foot, consequent on Injury to the Knee; Inflammation and Obstruction of the Brachial Artery; Gangrene of the Hand.*—Dr. Houston laid before the Society a series of drawings and preparations illustrative of two cases of gangrene of the foot occurring under peculiar circumstances.

The first case was that of a man æt. 36, who was carrying a sack of corn, when his foot slipped accidentally, and he fell; he was unable to rise, and on being assisted was still unable to put the limb to the ground. It was observed that the knee was some way twisted and the leg distorted. His fellow-labourers used immediately some extension, and, according to his account, restored the form of the leg. After being carried home he began to feel severe pain in the back of the leg, the limb became swollen, its surface became covered with vesications, and complete mortification was established as high up as to the knee-joint. In this condition, at the end of three months from the receipt of the injury, he was brought to the Mayo Infirmary. The appearance of the limb at that time was accurately represented in a drawing, which shewed the line of separation formed between the sound and mortified portion of the limb, which were now connected only by the bone. The knee-joint also was diseased; it was very painful, and a profuse suppuration proceeded

from it. As the only remaining chance of saving the man's life, amputation was decided on. This was performed above the knee by Surgeon Dillon; but, notwithstanding every attention, tetanus ensued, and terminated in death. In this case the original injury to the knee was not precisely known; but it was probably some degree of dislocation; a portion of the tibia was completely carious, and the mortification had extended even into the articulation of the knee, within which the line of separation had passed.

The second case was also one of a man carrying a load, who slipped; his foot became entangled between planks, along which he was proceeding, and he fell with considerable violence. He was immediately conveyed to Surgeon Pentland, of Drogheda, who found that the tibia was dislocated on the forepart of the femur. Reduction was easily effected; but in a few days afterwards there commenced a train of symptoms similar to what occurred in the preceding case, only that the knee-joint itself did not become affected. The pain commenced in the back of the leg, extended downwards to the ankle, and was most severe in a line running along the outside of the foot from the little toe and upwards again to the back of the leg, where it had commenced. This case also resulted in mortification of the foot; amputation below the knee was performed by Mr. Pentland, and the patient has since done well. The parts are preserved in the museum of the Royal College of Surgeons, Dublin.

Dr. Houston was of opinion that he could explain the occurrence of gangrene in these cases, by reference to one which he considered analogous. A young woman was admitted into Stevens' Hospital labouring under acute pain of the hand and arm, accompanied by fever. At the end of the third week the hand had become completely mortified, and the patient sunk rapidly and died. When the affected limb was examined, it was discovered that the canal of the brachial artery and its ramifications was completely obliterated by inflammation. The preparation, which is a very instructive one, belongs to the Park-street Museum, and was produced by Dr. Houston in illustration of his opinion that in all these cases, arteritis, and consequent obstruction to the supply of arterial blood to the limb, was the cause of the gangrene which ensued.—14th December, 1844.

14. *Inflammation of the great Saphena Vein; Pneumonia; Purulent Deposits in the Lungs.*—Mr. Hamilton read the following communication to the Society. A man thirty years of age was admitted into the Richmond Hospital, on the 4th of February, 1844, with great pain and swelling in the right lower extremity, he had also urgent dyspnœa, and was reduced to the greatest stage of debility. Sixteen days before admission he had been seized with a severe rigor, followed by pain and swelling of the right lower extremity, which had been since gradually increasing in size, but he had not applied for any medical advice. His aspect now was sallow, his tongue furred, pulse feeble, irregular, and intermittent; he had cough, and expectorated a very tenacious pneumonic sputum, with bloody streaks. The thorax on percussion sounded clear ante-

riorly, the respiration was feeble, and expiration was accompanied by a sonorous râle; posteriorly the chest was dull on percussion; the respiration was here also feeble, and accompanied by sonorous and sibilant râles; inferiorly there was a muco-crepitating râle. The right lower extremity was swollen in its whole extent from the groin downwards; the integuments were mottled with livid spots; on the inside of the thigh and leg there were red livid streaks in the course of the saphena vein; the limb pitted on pressure, but was not tender except in the situation of those red lines, and there a diffused hardness was also perceptible. In front of the tibia there was a small ulcerated opening, situated in the centre of a swelling in which fluctuation was very distinct. Through this opening Mr. Hamilton cut down to the bone, which was denuded of periosteum. Some sanies escaped. The man did not feel the incision. He continued to sink, and died delirious. The lungs generally were found dark-coloured, with inflammation in patches, and numerous small purulent depôts scattered through their substance. When the swollen limb was cut into, serum escaped, which was tinged with blood; from the saphena vein pure pus flowed out, followed by a turbid fluid, like the lees of port wine; the vein, in its whole course up to its junction with the femoral vein, felt hard and thick. The disease was most intense low down in the limb, and gradually diminished upwards; the femoral vein was healthy above the valve, where the saphena enters the femoral, as if an attempt had been made by nature to limit the disease. The lining membrane of the diseased vein was swollen, pulpy, and more high-coloured than in the state of health. There were coagula here and there, and lymph generally effused upon the surface. The calibre of the vessel was diminished; lower down in the leg it contained a purulent matter, and the lowest branches were full of pure pus.—10th February, 1844.

15. *Perforation of the internal Jugular Vein.*—Mr. Robert W. Smith detailed the following case, and exhibited the diseased vein. Andrew Prendergast, æt. 9, was attacked with rigors, August 5; and upon the following day the eruption of scarlatina appeared over the whole body. He was admitted into the Hardwicke Hospital on the 7th; his throat was at that time affected, the tonsils inflamed, and deglutition difficult; the tonsils and upper part of the back of the pharynx were of a bright red colour; spots of ulceration had appeared on each tonsil, on the back of the pharynx, and on the uvula. The ulcer on the left tonsil was superficial. The others were covered with greenish lymph; and when this was removed the ulcers presented a dirty ash-coloured surface; low fever; weak, frequent pulse; dry tongue. Upon the 10th the scarlet eruption disappeared; the throat looked better. The boy made no complaint, but was very restless; he moaned constantly; his pupils were dilated, pulse 130. Upon the 12th, the parotid regions were suddenly attacked with swelling, which extended down the neck; the swelling was hard and tense, and the skin inflamed; pulse 140. Upon the 15th the swellings in the neck had altered much in appearance; that on the

left side had almost subsided; and that on the right side was soft, pale, and colourless; it obviously contained matter. An opening was made into it, and a thin unhealthy matter given exit to. Upon the following day another opening was made near the chin. His strength was sinking under the profuse discharge. Upon the 18th he had a frequent short cough, with scanty expectoration and short hurried breathing; countenance pale and most anxious; pulse faint and rapid. 20th. Diarrhoea. To-day a sudden gush of thin, watery-looking blood took place from one of the openings in the neck; about four ounces of blood flowed, and then the discharge suddenly ceased. Upon the 22nd a pale colourless swelling, with fluctuation, suddenly appeared in the calf of the right leg; and the foot became œdematous. Upon the 23rd, the right knee-joint became distended with matter; but the boy did not complain of any pain. Upon the 24th another gush of blood took place, and he died shortly afterwards.

Post Mortem Examination.—The integuments covering the right side of the upper part of the neck were of a dusky colour, undermined and perforated by a number of apertures; the cellular tissue and upper part of the sterno-mastoid muscle were in a state of slough, and infiltrated with a fœtid, thin, sanious, purulent matter; the sloughing process had extended to the internal jugular vein, and near the angle of the jaw that vessel was perforated by a small circular aperture; the lining membrane of the vein around the aperture was covered with green lymph, and this again was surrounded by a number of red vessels. The right tonsil was almost completely destroyed, the left enlarged, the epiglottis was thickened, and a small circle of ulceration surrounded its edge; its posterior surface was vascular, and the lining membrane of the larynx inflamed; bronchitis in both lungs; general pneumonia; congestion; it had nowhere advanced to purulent infiltration. The right knee-joint was distended with purulent matter, and the cartilages were soft, but not ulcerated; the muscles of the calf of the leg were infiltrated, and separated from each other by purulent matter; the foot was œdematous, and the ankle-joint also contained pus.—13th April, 1844.

16. *Anæmia.*—Dr. Corrigan said the case which he had to submit to the Society was one of very rare occurrence, the only one that he had ever met with in his own practice, and of which, he believed, very few had been recorded by pathologists. The subject of this case, Alexander Macdonnell, died at the age of 21, after several years of ill-health, and no trace whatever of organic disease could be detected by a very careful examination of the body after death. Before describing the appearances observed in that examination, he would read the notes of the case, of which the following is an abstract. The patient, a young man, a servant, was admitted into the Whitworth Hospital on the 26th of February, 1841, in a state of extreme debility, though but little emaciated; he had dark hair and eyes, with glistening corneæ; generally anæmic appearance; lips blanched; limbs pallid, and cutaneous surface every-

where bloodless: suffered no pain: no organic disease could be detected in any part of the great cavities. He had no cough, no palpitation except after exertion; his pulse was small and weak, 96. When he was in the supine position, a bruit could be heard at the middle of the sternum; but this disappeared when he assumed the erect posture. There was a chlorotic bruit in the vessels of the neck; the bowels were regular; urine natural; tongue clean, and skin cool and dry; the intelligence perfect, and sleep good. He described himself as having been robust up to 1838, in which year, after sleeping in a damp place, his health became so impaired that he left his service; however, he gradually recovered strength, but not colour. He has since that had five or six similar attacks, each commencing with diarrhoea lasting for three or four weeks, and extreme debility; but no fever, no pain, except griping. He has received no hurt, nor has he committed excess of any kind. On the day after his admission he was ordered broiled meat and wine. On the 2nd of March he had shivering. On the 5th his strength was rapidly failing; his words were languidly pronounced. He continued to sink rapidly until his death on the 10th of March. For some time previously he had pain in the abdomen, in the course of the recti muscles, whenever he moved; and the respirations were 36, while the pulsations were 120 in the minute. In the examination after death nothing remarkable could be discovered; the muscular tissue and all the viscera appeared healthy; the heart was somewhat softer than usual, and contained very little blood. In the vena cava and right auricle there was a clot without colouring matter; the muscles of the intestines were exceedingly pale. Dr. Corrigan, after describing this case, adverted to some similar cases which he found on record. One has been given by Combe (in the *Medico-Chirurgical Transactions*), who mentions that in his case the anæmic state was preceded by repeated melanic discharges from the bowels. This disease differs from chlorosis in the absence of serous effusions. Authors assert that in chlorosis the muscles are pale and flabby. This Dr. Corrigan has had no opportunity of verifying. A distinction is to be made between such anæmia as exhibited in the present case and pure chlorosis, and this perhaps may lead to a distinction of these anæmic diseases into two classes. In health no relation is necessary between the colour of the muscles and that of the blood, as we may infer from the white muscles of several red-blooded animals, as rabbits, many fowls, fishes, &c.; other cases of anæmia are to be met with in the works of French physicians. Thus, Chomel (quoted in Andral's *Anatomie Pathologique*, tome i.) relates the case of the workmen of a coal-mine affected with this malady in the year 1811. Andral attributes their disease to the absence of solar light; but this is not observed in England or in Ireland to be capable of producing it. There is also a discrepancy as to the cause between Andral and Roche; the latter asserting that the air and water in that coal-mine were contaminated with sulphuretted hydrogen, to which he ascribes the peculiar symptoms which were observed.—(Article *Anæmia*, in the *Dictionnaire de Médecine et Chirurgie Pratiques*).

This writer says that anæmia is a very rare disease, and that he has seen but two cases of it, one of which was that of a butcher's boy, in whom no lesion could be perceived; no cause could be discovered, except that he had been employed in a gloomy back kitchen. He recovered in the Hotel Dieu. The other case given by Roche is that of a young female, in whom it proved fatal, and no examination of the body was permitted. Her case may be considered as exemplifying the connecting link between anæmia and chlorosis, as the disease in her was complicated with chronic disease of the liver and digestive organs.—16th March, 1844.

THE RESPIRATORY SYSTEM.

1. *Effects of scalding Water upon the Larynx; Rima Glottidis closed; Lymph effused on Arytenoid Cartilages.*—Mr. Carmichael presented the larynx and trachea of a child between two and three years of age, that died about a fortnight since in the Richmond Hospital, in consequence of having inhaled the steam of boiling water from the spout of a tea-kettle. The child was brought to Mr. Carmichael's house, twenty-four hours after the occurrence; the countenance was pale, the lips were livid, and the condition altogether such that he doubted whether the operation of tracheotomy would be of any service; but lest any chance, however slight, of saving life should be lost, he sent the child to the Richmond Hospital, where he performed the operation. Mr. Carmichael remarked, that this operation is very difficult to perform on a child, the trachea being constantly in motion, and the part in which the opening is to be made having the thyroid gland just above and the thymus immediately below it, while it frequently happens that there are also large branches of vessels passing across in front of the trachea. The best mode of operating is to lay hold of the trachea, when exposed, with a strong hook, and having then drawn it forward, cut out a portion with a pair of scissors. There is another mode of operating with an ingenious instrument recently invented by Mr. Milliken, by means of which the operator can, at the same moment, both fix and hook the trachea, and then, by pushing forward the instrument, can cut out a circular portion of the cartilaginous rings. Mr. Carmichael mentioned that he had twice before performed tracheotomy with success, in cases similar to the present. In one of these, which had occurred some years ago, he had the assistance of Mr. Adams and Mr. Smith, and so complete was the recovery in that operation, that the patient's voice was not injured, and he is now a distinguished member of the choir of Christ Church Cathedral in this city. In the present instance the boy lived but twelve hours after the operation. In the examination after death, it was found that the glottis was closed, and the arytenoid cartilages were covered with lymph; the lungs were sound, no blood was lost during the operation. Besides the recent specimen there was on the table a coloured cast of the parts, made by Mr. R. W. Smith, representing accurately the appearances immediately after death.

Mr. Carmichael produced to the meeting, and described, the instrument for tracheotomy to which he had alluded, being an improvement upon that originally invented by Mr. Read, in whose instrument the cutting part was in the same plane with the axis of the handle, in consequence of which formation the depth at which the trachea lies below the external incision, would not permit the instrument to be so used as to excise any portion of the trachea. In the instrument shewn by Mr. Carmichael, the cutting part forms a curve or obtuse angle with the handle, a construction which obviates the objections to the former instrument. The ease with which this cut out a circular portion of the rings was demonstrated to the meeting, on the trachea of a sheep. Mr. Carmichael recommended this instrument to the notice of the Profession.—*9th December, 1843.*

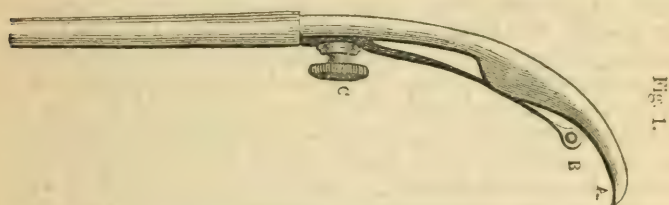


Fig. 1. A side view of the instrument, the edges are on the concavity at A.

B. a steel spring holding a piece of silver wire across the edges a little elevated.

C. a screw for securing the spring in the desired place.



Fig. 2. A front view of the instrument.

2. *Laryngitis supervening on Measles.*—Dr. Lees presented some recent specimens, and a drawing illustrating a dangerous complication of measles.

The first case was that of a child *æt.* 2 years, of a delicate, scrofulous habit, whom Dr. Lees saw for the first time on 7th of December, which was the second day of its being ill of measles. On the next day (8th December) it exhibited symptoms of affection of the larynx; it had a husky, hoarse cough, but no stridor; the respiration was accompanied by a hissing sound, and was performed through the nostrils. This child continued to get worse, convulsions came on, and it died. The tongue was coated with false membrane, which extended to the back of the pharynx, and also into the larynx and upper portion of the trachea. In the upper lobe of the right lung were several cavities produced by scrofulous

tubercles, and inferiorly there was a mass of yellow tubercular infiltration. The liver resembled the fatty liver (of Louis), the right lobe was much larger than usual. In this case there had been acute inflammation of the larynx accompanied by fever, which differed from croup, in its attack not being sudden, in there being neither stridor nor difficult inspiration, and in the false membrane being more granular than that of croup.

The drawing represented the appearances observed in another child of eight years, who died on the third day of the attack; the epiglottis was very vascular, and there was a deposition of false membrane, as in the former case.—21st December, 1844.

3. *Displacement of the Heart; Cirrhosis of right Lung.*—Dr Greene presented a preparation and a cast of a case which he considered to be interesting in several points of view. The subject, a man æt. 36, was admitted into the Whitworth Hospital; he said that five years previously he had fallen on his chest, after which his breathing became difficult. Six months ago he became affected with pain in his side, cough, and difficult respiration. At the time of his admission he was slightly jaundiced, and very much emaciated; he had cough, and very fœtid expectoration, which was not copious, nor had it come on suddenly; the right side of the chest was immoveable, and was contracted; its integuments were not œdematous; it gave a dull sound on percussion; bronchial respiration and bronchophony were audible in it, and great resonance of the voice; the vibration caused by the voice was not felt at this side, and a mucous rale prevailed through it. The left side sounded clear, and the respiration was *peurile* in its whole extent, and as far as the right border of the sternum; there was great prominence in the hepatic region, and a remarkable sulcus existed between the liver and the margin of the chest; no pulsation could be detected in the præcordial region. It was very difficult to form a diagnosis, there being no evidence of effusion or of hepatic abscess. The patient, on the second day after his admission, had fever; on the next day he was delirious; on the fourth he died. When the chest was laid open, the right lung could not at first be seen, it lay towards the back part of the chest, and anterior to it was the heart in the mammary region, its apex pointing downwards and to the left. The lung was adherent to the pericardium, and on being cut into was found to be solidified, and the bronchial tubes passing into it larger than the natural calibre. The left lung was very large, extending under the sternum to the right. Dr. Greene, in concluding, recounted the different opinions of pathologists on the cause of the displacement of the heart.—27th April, 1844.

THE NERVOUS SYSTEM.

1. *Purulent Effusion under the Arachnoid, supervening on Fever.*—Dr. Corrigan said, the specimen to which he wished to direct the attention of the Society was one illustrative of the sudden changes which often occur immediately after fever, and the knowledge of

which should render the physician very cautious in pronouncing the complete convalescence or safety of the patient. The prognosis ought to be very guarded, until every function is restored to its healthy state, and every febrile symptom has disappeared. The present specimen was taken from the body of a woman who was a patient in the Hardwicke Fever Hospital. She had fever and bronchitis; then the intestinal mucous membrane became affected; and, along with this, were the usual symptoms of the common adynamic fever of this country. On the fifteenth day she was apparently getting well, when she was observed in the evening to be heavy and somewhat confused; in an hour afterwards she was comatose; and, on the following morning, when he visited the hospital, he found her lying on her back, with her arms paralyzed and contracted across the chest. She died within twenty-four hours after the accession of the cerebral symptoms. On examining the contents of the cranium, there was observed sub-arachnoid infiltration of pus, which was also very remarkable in the sulci of the convolutions. Dr. Corrigan made a section of the brain in the presence of the Society, and found that its tissue was healthy, except, perhaps, a slight increase of vascularity, scarcely perceptible: the base of the brain was quite sound.

Dr. Corrigan recollected that he had met with two similar cases in the course of his practice. One, which occurred about three years ago, was the case of a gentleman who had enteric fever, with discharges of blood from the bowels: he had so far recovered that he was about to be removed for change of air, when he was observed to have become incoherent in his discourse, spoke thickly, and rapidly passed into a state of coma: this terminated fatally within a few hours. The other case was that of a man, also convalescent after fever. During the night he became violent and refractory. Dr. C. saw him in the morning; he was lying on his back, with the arms firmly folded across the chest; the teeth set; he would not reply to any question, but spat through the teeth when any person spoke to him; he rapidly became comatose, and died in that state. A considerable quantity of lymph was found effused at the base of his brain, extending from the origin of the optic nerves to the pons varioli. These cases are all remarkable for the extreme rapidity with which they run on to a fatal termination, and also for their occurring at a period when all danger from the original disease is believed to be at an end.—25th November, 1843.

2. *Effusion of Lymph between the petrous portion of the temporal Bone and the Dura Mater; Purulent Effusion on Cerebellum.*—Dr. Hutton said he had to communicate a case of disease of the internal ear. He regretted that the specimen (which he had intended to present at a former meeting) had been somewhat spoiled by long keeping; but he had a drawing to exhibit, taken at the examination of the recent parts: this accurately represented the state of the membranes of the brain. The subject of the case was a boy, nine years of age, who for a long period had a discharge from the left ear. Ten days before his admission into the Richmond Hospital

the discharge from the ear was almost completely suppressed; he vomited and had fever; got gradually worse, and was brought to the hospital. At his admission he had the head retracted; any effort to restore it to the natural position caused great pain; the muscles of the back of the neck were spasmodically affected; the general aspect was ghastly; the eyes straining, the teeth uncovered by the lips, and the whole body emaciated. He understood questions, and returned answers, but in a few hours afterwards fell into a state of coma, and died. In examining the body after death, the meatus externus of the affected ear was found filled with caseous matter; there was an opening in the membrana tympani, and at the insertion of the membrana there was a fungous growth; the mucous membrane lining the cavity of the tympanum was thickened and granular; it adhered firmly to the bones; the ossicula remained; the temporal bone itself was not carious nor softened, nor was its mastoid process at all diseased; the dura mater was separated from the petrous portion, and there was lymph effused between them; the dura mater was sloughy, and there was an aperture in it; the upper surface of the cerebellum was smeared with purulent matter; the inferior surface of the tentorium was similarly smeared; the brain was not softened; no communication could be traced between the cavity of the cranium and the internal ear. This case Dr. Hutton considered as an instance of the consequences of suppressed otorrhœa. He alluded to Surgeon Wilde's paper on otorrhœa, in the Dublin Journal, with part of which he coincided, but he dissented from Mr. Wilde's opinion, that such discharges may be suppressed with safety. Dr. Hutton considers that they should not always be suppressed without previous preparation, and perhaps the substitution of some other discharge, even in cases where there is no evidence of disease of the bone.—*27th January, 1844.*

3. *Atrophy of the left Hemisphere of the Brain, and of the right Lobe of the Cerebellum.*—Mr. Robert William Smith said the specimens he then presented were connected with matter of much interest to the pathologist; besides the specimens themselves, he laid before the Society drawings and casts for the further illustration of the subject. The specimens were taken from the body of a man who had been an idiot from his infancy, and who had lately died of bronchitis: his right hand was permanently flexed upon the forearm, and the forearm upon the arm; the right lower extremity was also atrophied and contracted, the foot having a tendency to assume the position seen in cases of varus. Upon viewing the condition of the right upper and lower extremity, Mr. Smith felt convinced that in the examination of the body, he would find an atrophied state of the opposite hemisphere of the brain, or that a serous cyst would be found occupying the place of the cerebral structure. The brain, together with drawings of it taken immediately after its removal from the skull, were then laid upon the table; they shewed a remarkable atrophy of the convolutions of the left anterior and middle lobes; in many situations, they were altogether deficient, the roof of the lateral ventricle being, in such places, entirely constituted by arachnoid membrane, thicker

and stronger than natural; the ventricle itself, greatly enlarged, was filled with serum; when the surface of the hemisphere was cut away and the interior of the ventricles exposed, it was seen that the arrest of development engaged to an equal extent the parts constituting the floor of the left lateral ventricle; the optic thalamus and corpus striatum were not half the size of those upon the right side; they presented, especially the optic thalamus, a shrivelled appearance; the antero-posterior extent of the left margin of the commissura mollis was much smaller than that of the right; and where it was joined to the left thalamus it was puckered; the entire commissure was of a triangular form, its right margin constituting the base of the triangle; the left mamillary body was smaller than and placed posterior to the right; the left crux cerebri was also atrophied; *chose bien singulière!* (as remarked by Cruveilhier in an analogous case); the right lobe of the cerebellum was much smaller than the left. Mr. Smith remarked, that the first question of interest which suggested itself in this case was, what was the connexion between the permanently flexed state of the right hand and the deficiency of the left hemisphere of the brain? But he would not dwell upon this point, as he had already considered it, in a former communication made to the Society [See Dublin Journal, vol. xvii. p. 524]. The second point which suggested itself for consideration was, how to account for the atrophied state of the right lobe of the cerebellum, while in the brain, the arrest of development engaged the left hemisphere? The explanation was only to be found by referring to the minute anatomy of the organ. We know from the researches of Rolando, Santorini, Mayo, Solly, &c., that all the fibres of the pyramidal bodies do not pass through the pons to be lost in the hemispheres; some, on the contrary, curving round the olivary bodies, accompany the corpora restiformia into the cerebellum; these are the fibres termed "processes acrifformes" by Santorini; there are, in fact, two sets of fibres running from the anterior columns to the cerebellum; one a superficial set, some of which cross the surface of the cord below the olivary body, and are supposed to decussate with their fellows of the opposite side, while others seen along the inside of the olivary body ascend to the cerebellum, forming the outer part of the restiform bodies; the second set of fibres of the anterior columns, or deep cerebellar fibres, run along with those of the posterior columns, forming, it is said, a fourth of the whole diameter of the restiform bodies; the existence and course of these cerebellar fibres of the pyramidal bodies, Mr. Smith thought was fully capable of explaining the atrophy of the cerebellum upon the side opposite to that on which the brain was deficient.—*4th March, 1843.*

4. *Softening of the posterior Lobe of the right Hemisphere.*—Dr. Green said, the Society must by this time be convinced, that considerable organic disease might occur in the brain, without the exhibition of any corresponding amount of symptoms during life; and that, on the contrary, it sometimes happened that but very little morbid lesions could be discovered, in examining the brains of persons who had presented remarkable and obvious symptoms of cerebral affec-

tions. The specimen he had now to describe was an illustration of this disproportion between symptoms and organic lesions. The subject was a woman, aged 60, who was admitted into the Hardwicke Hospital three weeks ago, and was then able to walk to the hospital from a distance. She had slight pain in the right ear and right side of the head, but no other symptom of cerebral disease. Her intellect was not affected. For three or four days before her death she was a little stupid; she had neither strabismus nor paralysis, nor spastic cramps, which are supposed indicative of the red softening of the brain; she was slightly deaf at the right side; the bowels were constipated, but there was nothing symptomatic of disease of the stomach. On Thursday week she got up out of bed; there was no affection of the muscular system, but previous to her admission she had an epileptic fit, and this had recurred once or twice afterwards. She was in a state of drowsiness for two days before her death, which happened during a convulsion. When the cranium was opened, a soft, pultaceous mass, which appeared to have been originally a scrofulous tumour, was discovered in the posterior lobe of the right hemisphere of the brain. The surrounding brain was softened; this mass did not involve the corpus striatum or the optic thalamus; in the corpus pyramidale of left side there had been another tumour. Dr. Green remarked, that where there was no effusion, nor pressure of any other kind on the brain, great disorganization might take place without any corresponding symptoms; and, *vice versâ*, there would be most prominent symptoms when compression or irritation occurred, although the extent of morbid change of structure might be slight.—29th April, 1843.

5. *Chronic Hydrocephalus, without Symptoms of cerebral Disease during Life.*—Dr. Banks presented specimens illustrating a case of chronic hydrocephalus, which was remarkable for having exhibited no symptom of cerebral disease, no convulsion, no impairment of intellect during two years that the patient had been under Dr. Banks' observation. The subject of the case, a male æt. 30, did, however, state that he had been treated for water in the brain during infancy. About three months ago he exhibited signs of phthisis, and a cavity was detected in the upper lobe of the right lung; the disease went on rapidly to its fatal termination, but there was no delirium even in its latest stage. On opening the skull, the arachnoid was found slightly opaque; within the brain itself was an immense mass of serous fluid, measuring at least a quart, distending the lateral ventricles; the substance of the brain enclosing this was exceedingly thin, but the bones of the cranium were of the normal thickness. Here, then, was an enormous extent of disease within the brain, yet unaccompanied by any obvious injury to the intellectual powers. This man's memory was quite good, he appeared in possession of all his faculties, and had neither epilepsy nor spasms of any kind.

As a contrast to this, Dr. Banks described another case which had come under his notice in the Hardwicke Hospital; an idiot æt. 15, affected with porrigio favosa, and also labouring under paralysis,

depending on disease of the brain and tonic contractions of the muscles. In examining his brain after death, more than a pint of fluid was found in the ventricles.—21st December, 1844.

GENITO-URINARY SYSTEM.

1. *Extensive Disease of the urinary System resulting from Fracture of the Pelvis.*—Dr. Hutton said that the specimens which he then laid before the Society were taken from the body of a boy aged 15, whose pelvis had been fractured before he was quite ten years of age, by a barrel falling upon him just as he had fallen off a dray. The injury was succeeded by extravasation of urine. An incision was made into the perinæum to discharge the urine; a collection of pus formed in the hypogastrium, which was evacuated by puncturing in the linea semilunaris about three inches above the spine of the pubis. When he was about ten years of age the urethra was obstructed, and the urine was running through this fistulous opening. He was in the hospital on this occasion six days under treatment. When he was thirteen years of age he was again treated with bougies and catheters, and the natural passage re-established. He was discharged from hospital on the twenty-fourth day. In six months afterwards he returned, with the disease re-established in the membranous portion of the urethra. On another occasion he came in, suffering constant stillicidium urinæ; and on another, with pain in the loins, for which he had been cupped. The obstruction of the urethra had returned, and instruments could now only be passed with difficulty; no force whatever was used in the attempts. About the middle of November, 1842, he again applied for relief at the hospital; he was suffering from a continual stillicidium; he felt pain over the region of the bladder; there was a copious deposition of mucous sediment from his urine; a calculus was detected in the bladder by sounding; the passage was too small to admit the entrance of a staff. Sometimes he was able to pass the urine in a tolerable stream, even at periods when it was extremely difficult to pass an instrument of very small dimensions; and, on the contrary, it sometimes occurred that the instrument would readily pass, while there was great difficulty in making water. He had frequent febrile exacerbations, and attacks of pain in the loins. On the 21st of January, 1843, he was removed to the country by his friends, but was brought back to the hospital a short time afterwards, being much worse; he had night-sweats, very quick pulse, dry furred tongue, and severe pain in the hypogastrium. Staff No. 8 could now be passed; the calculus was distinctly felt; but the state of the general health contra-indicated any operation for its removal. The pain was most severely felt in the left lumbar region. He remained in the hospital till his death, which happened on the 28th of March. Eight or ten days previously to his dissolution, a fluctuating swelling was perceived in the hypogastrium; there was considerable fever; and it was thought necessary to introduce the catheter, which was done by Dr. Hutton himself. Not more than about half an ounce

of urine was drawn off, although the instrument had entered the bladder, and Dr. Hutton felt its extremity striking against the naked calculus, and heard the sound produced by striking it; the fluctuating tumour remained undiminished. On the following day, when pressure was gently made on the tumour, urine and purulent matter flowed from the urethra; the tension then disappeared, and the outline of the recti muscles could be perceived in that situation. The entire urinary apparatus was carefully examined after death; the right kidney was smaller than natural, irregular on the surface, and contained several cysts; there had been an abscess in the pelvis of that kidney. In the left kidney the pelvis was dilated, and contained purulent matter: the substance of this kidney resembled what is designated Bright's disease. The ureters were twisted and greatly dilated. The bladder was not adherent to the parietes of the abdomen; but between its anterior aspect and the abdominal parietes there was a large sac of an abscess, into which a bougie could be passed from the urethra; the opening in it was near the cicatrix of the fistulous opening in the abdomen; this sac was bounded anteriorly by the pubis and by the recti and pyramidales muscles; superiorly by the peritoneum. The sac itself had probably been a second receptacle for urine, and had not become inflamed until lately. Some temporary obstruction in the inferior part of it had been the cause of the symptoms which were observed ten days before the patient's death. The operation of lithotomy was performed on the dead body, and the calculus extracted. The incision into the bladder did not touch the sac which has been just described. The whole urinary system of this individual was in a state of disease, resulting from the violent injury done to the pelvis five or six years previously. The lungs and other organs of the body were quite healthy.—*1st April, 1843.*

2. *Effects of Stricture; Inflammation of the Bladder, Ureters, and Kidneys; Abscess about the membranous Portion of the Urethra.*—Mr. R. W. Smith presented specimens shewing the effects of stricture of the urethra on the bladder and kidneys. The subject, a man, æt. 57, came under treatment in the middle of January in a state of great debility, labouring under a continual stillicidium urinæ, which had now lasted three months. The bladder could be felt reaching up to the umbilicus. He had slight diarrhœa; stated that he had been suffering from stricture during seven or eight years. Ineffectual attempts were made to introduce the catheter. On 17th January a small catgut bougie was with some difficulty passed into the bladder, and over it a small gum elastic catheter, in the manner practised by Dr. Hutton. This catheter was left in during forty-eight hours, and was then replaced by one two sizes larger, which was removed and replaced in the same manner; a larger-sized instrument being substituted every second day till the 25th of January, when a gum elastic catheter, No. 12 or 13, could be easily introduced. The health was now amended, and the stricture so much relieved that it was no longer necessary to leave the instrument in the bladder; but to prevent recurrence of the stricture, the large-sized catheter was

introduced every alternate day, for just so much time as was requisite to evacuate the bladder. The patient could, without the instrument, pass about a pint of urine in a full stream, part of which was clouded by admixture of muco-purulent matter; an equal quantity remained in the bladder which he could not pass. He was, therefore, taught how to introduce the catheter, to draw off what remained undischarged twice every day. On the 3rd of March he became suddenly worse; the diarrhœa returned; fœtid purulent matter and clotted blood were passed at the end of the stream of urine from the catheter. He said that, having met with some difficulty in passing the instrument, he had hurt himself, and had then passed blood. He continued from that time to get worse, and all his symptoms were aggravated; hiccough, subsultus tendinum, intermittent pulse, and dry, brown tongue appeared. This morning he died. The examination of the parts after death shewed that no contraction remained in the urethra; the stricture had been cured; there was a slight laceration in the mucous membrane, caused by the patient himself in passing the catheter. The bladder was greatly thickened, and its mucous coat was highly inflamed; the inflammation extended through the ureters to the kidneys, which were full of minute abscesses: all these parts were intensely vascular. The membranous portion of the urethra was isolated above and below by an immense abscess. This lesion is not uncommon; it had also occurred in a case of diseased prostate, of which Mr. Smith shewed a drawing.—16th March, 1844.

3. *Corroding Ulcer of Cervix Uteri; Encephaloid Deposit in superior Part of Vagina.*—Dr. Churchill presented a specimen of the corroding ulcer of the uterus, from the body of a female, æt. 50, not pregnant, for the opportunity of producing which he was indebted to Dr. Bellingham. It would be recollected that in a former session he had exhibited a specimen of the same disease in the pregnant subject. In the present instance, the cervix uteri, and a portion of the lining membrane of the uterus, were destroyed. The symptoms were pain in the pelvis, bearing down, slight discharge and hæmorrhage from vagina. On examination with a speculum, the cervix uteri was found to be painful when pressed on. The ulcer itself was fungous, soft, and smooth; the uterus was moveable. Dr. Churchill applied strong nitric acid to the ulcerated surface; it caused no pain, produced no eschar, but merely cleaned off the fungous growth, leaving a smooth level sore, which, however, would not heal. The application succeeded in removing the pain, and it diminished the amount and frequency of the hæmorrhage. The patient afterwards was admitted into St. Vincent's Hospital, where Dr. Churchill was permitted to attend her, and continue the treatment which had been so far beneficial. Still the ulcer went on increasing in extent, although its surface was clean and smooth; the vagina became so tender that the acid could no longer be applied; the symptoms became aggravated; the hæmorrhage was alarming in amount, and the patient sunk under the disease. The glands in the groin do not usually become affected in this disease,

but in this case they increased considerably in bulk. The uterus itself was not enlarged, nor was there any deposition in it, or in any part of the pelvic cavity. In the upper part of the vagina there was an encephaloid deposition. This was probably the cause of the difficulty experienced in the latter stage of the complaint in introducing the speculum, and which finally compelled its abandonment. —13th January, 1844.

4. *Fibrous Polypus of the Uterus.*—Dr. Montgomery presented a specimen of a very large uterine polypus. He had but a portion of it; but the Society could estimate the magnitude of the entire by viewing that fragment. He had removed the polypus from the uterus of a lady who had been delivered only three weeks previously. The child was large and healthy, and the placenta in the normal state. Afterwards this large polypus emerged from the os uteri. A ligature was applied to effect its removal. This ligature broke after nine inches of it had been drawn up through the canula. This was the measure of the quantity which was occupied in encircling the pedicle, which was consequently nearly three inches in diameter. A week ago only some small shreddy portion of the polypus remained attached. The polypus, in its perfect state, was as large and as firm as a child's head at the time of birth; the canula bent in passing by it in the vagina; no untoward hæmorrhage followed the operation. A section, shewn in Dr. Montgomery's specimen, presented a fibrous structure, with large vessels distributed through it.—4th March, 1843.

5. *Sebaceous Contents of an ovarian Tumour discharged in the Urine.*—Dr. Montgomery presented a specimen of a fatty substance, resembling butter which had been melted and afterwards congealed, which had been sent to him by Surgeon Brabazon, of the Downpatrick Infirmary, who described it as having been obtained from the urine of a female patient in that Infirmary, who had been admitted for an abdominal tumour which was supposed to be ovarian. After she had been some time in the Infirmary, the substance began to be deposited in the urine as it cooled, and the abdomen gradually diminished in bulk. Dr. Montgomery considered that this might be elucidated by referring to some other cases exemplifying the different modes in which ovarian tumours may be resolved. The matter now produced he found would liquefy at the heat of urine just discharged. It was probably liquid in the body, though we know very little of the state of the contents of ovarian cysts during life. In a case communicated by Dr. Hardy, a matter similar to this, but of a white colour, was found in the ovary. Surgeon O'Brien, of the Clare Infirmary, had described the case of a woman, labouring under vesical calculi, the nuclei of which were human teeth. These had probably passed from the ovary, although in that case there were no symptoms of ovarian tumour. A case had been communicated by Dr. Houston, during the last session, of a tumour blocking up the rectum, which, on being laid open, was found to envelope a maxillary bone, with thirteen teeth. There is another mode in which ovarian cysts may be evacuated, viz., discharged of their contents

through the parietes of the abdomen. Of this Dr. Montgomery has seen three cases. One, in which pellets of hair and teeth were discharged through an opening near the umbilicus, had come under his notice during last summer. There is now a similar case in Dr. Stevens' Hospital, in which there is a lock of hair protruding through the opening, but as yet not sufficiently detached from the internal parts to admit of its being removed, any attempt to that effect causing hæmorrhage.—6th January, 1843.

6. *Ovarian Tumour*.—Dr. Law presented an ovarian tumour, weighing twenty-seven pounds, taken from the body of a woman, aged 47. About two years and a half ago she had profuse uterine hæmorrhage, which was frequently repeated during two years. At the end of that period she remarked a fulness of the abdomen, which went on increasing during three months. She was then admitted into Sir P. Dun's Hospital. The abdomen appeared much swollen, and on examining it carefully, an irregular-shaped tumour was detected within it. This tumour was described by the patient to have commenced below and grown upwards. It was evidently made up of several tumours, of various degrees of firmness and consistency; some of these gave a sense of fluctuation. She remained seven months in the hospital, during which time she suffered very little derangement of any of the functions except that of digestion. She occasionally suffered from strangury, caused by the pressure of the tumour; and she sometimes felt pain in the tumour itself, which was relieved by the application of leeches. At one period some fluid was detected interposed between the tumour and the parietes of the abdomen, from which the existence of ascites was inferred. As the growth of the tumour continued, the respiration was rendered difficult, the patient became emaciated, and suffered from diarrhœa; yet she was able to take animal food up to the time of her death, and had but little constitutional suffering. In the examination after death the tumour was found to adhere to the anterior abdominal parietes, concealing from view all the viscera, except the stomach and the edge of the liver; it was attached to the uterus. Its interior was multilocular, and the contents of its several cavities were various; in some there was a straw-coloured serum; in others a dark brown fluid; in others the fluid was mingled with flocculi of lymph; in others there were hydatids; some were very cellular, some serous cysts, and many of these were intersected by firm bands in their interior. The right ovary was lost in this tumour. In the left ovary there were found a few serous cysts, and probably such had been the origin of the great tumour. The uterus was hard and scirrhus. In this case an attempt to extirpate the tumour would have been useless, as it was connected with a malignant disease of the uterus itself; besides, its adhesion to the parietes of the abdomen would have presented an insuperable difficulty.—13th January, 1844.

7. *Ovarian Tumour containing Hydatids; False Membrane on the Peritoneum; Ascites*.—Dr. Corrigan presented a painted cast exhibiting the appearances observed when the body in this case was

examined after death. He had already at a former meeting [*Vide* Proceedings of 30th November, 1844], made a communication on the same case, of which he had now to lay the sequel before the Society. The dropsy increased to an enormous extent, so that it became necessary to perform the operation of tapping; by this only temporary relief was obtained; on the day next but one after the operation the patient complained of pain in her back; from this time she continued to get worse, and, after lingering a few days, sunk under peritonitis. Before her death, which occurred on Tuesday last, the fluid had disappeared altogether. The cast shews the parts *in situ*; none of the intestines came into view; when the abdomen was opened, some serous fluid and lymph were thrown out, and then a tumour was observed in the hypogastrium; this was ovarian and contained numerous sacs of acephalocysts; behind it lay the uterus, which was apparently quite healthy; in the left iliac region a projection was remarked resembling the sigmoid flexure, but obscured and lost behind a sac of false membrane which was also spread over the parietal peritoneum. On cutting upwards towards the sternum, the liver was discovered, but as yet neither omentum, mesentery, nor intestines, all these having been thrown up under the ribs at each side. Between the liver and the diaphragm were numerous acephalocysts, and this circumstance, as well as the former escape of hydatids, when the abdomen was tapped, was deserving of attentive consideration. The question would arise were those acephalocysts that escaped, ovarian or peritoneal in their origin—were they the result of a peculiar diathesis? In the lungs neither hydatid nor tubercle could be discovered. Baron maintains that tubercles always originate from hydatids; but the present case, considered in conjunction with the law enunciated by Louis, that when tubercles are found in the mesentery or within the abdomen of an adult they are always found in the lungs also, is contradictory to Baron's hypothesis. There were also to be noted in this case the situation of the intestines, and the light which the morbid phenomena throw on the value of fre-missement, which Dr. Bright considers to be evidence of adhesion between the tumour and the abdominal parietes, an opinion with which Dr. Corrigan does not agree, and with which this case also does not accord. In a case described by Dr. Bright, the colon crossed the tumour anteriorly, another circumstance in which his case differed from that now described, the subject of which had been eighteen months under medical observation.—21st December, 1844.

8. *Cellular Tumour, pendulous from the Labia Pudendi.*—Mr. O'Ferrall said he had to present a specimen of an unusual form of tumour, a pendulous growth from the left labium of a female, thirty years of age. It sprung from the inside of the labium, had been seven months growing, and was, when first observed, very small, but rapidly enlarged, became dependent, and was attached by a pedicle. There were tortuous veins on the labium and on the inner part of both thighs—one artery about the size of the ulnar entered the tumour. The appearance of the tumour *in situ* were shewn in a drawing made before its removal; its circumference was about seven

inches ; at its base there was an irregular-shaped ulceration of its surface. This tumour resembled the pendulous polypus described by Dr. Beattie, during this session. There is no example of such a tumour as the present in the works of Boivin and Duges. The structure of this tumour was cellular; it was anasarcaous, having no solid contents except its cellular matter infiltrated with a serous fluid ; it resembled anasarca in any other situation, and the ulcer on its most depending part was a point of analogy with anasarca of the scrotum. There had been a serous exudation from the ulcerated surface, and while this continued the tumour diminished in bulk, but grew larger when the exudation ceased.—*27th January, 1844.*

9. *Chronic mammary Tumour.*—Mr. Adams presented a specimen of the tumour of the female breast, called by Sir A. Cooper “the chronic mammary tumour.” The female from whom this had been removed was a married woman, a native of England, æt. 29. The tumour was hard, lobulated, and painful. It had some of the characters of carcinoma; for instance, the mamma appeared atrophied, and there was lancinating pain, especially at night, or after the part had been handled, but the nipple was not retracted, the parts had not the strong hardness which is met with in carcinoma, nor had the skin the porous aspect so usual in the malignant disease. In a consultation it was decided to extirpate the tumour and the atrophied gland, which was accordingly performed. On carefully examining the part three tumours could be perceived, the atrophied gland at each side and the tumour in the middle, which had probably originated behind the gland; a milky fluid exuded from a section of the tumour—in its centre was found a cyst from which proceeded several offsets, all lined by a mucous membrane; they had the appearance of dilated lactiferous tubes. The disease in this instance had commenced after nursing, and had existed two years before the operation for its removal.

Mr. Adams remarked, that although the discrimination of this species of tumour is usually referred to Sir A. Cooper, who described and figured it in the second part of his illustrations of Diseases of Breasts, London, 1829, yet the honour of having been the first to describe it belongs to the late Dr. Abraham Colles, whose account of it was published in 1811, in his Treatise on Surgical Anatomy, in which he mentions that this tumour sometimes degenerates into cancer, as Cooper has also observed. Dr. Colles also informs us, that it disappears after pregnancy, and that marriage and nursing are the best remedies for it. Several cases have been described by Mr. Brodie and Sir A. Cooper, but not till many years after Dr. Colles’s publication.—*17th February, 1844.*

10. *Malignant Tumour of the Scrotum.*—Mr. O’Ferrall detailed the following case, and exhibited the preparations of drawings connected with it. P. Smith, 44 years of age, was sent to me by Mr. Corbally of Corbalton, M.P. for Meath, on account of an enormous tumour of the scrotum, which descended nearly to his knees; it disabled him by its great weight, and had nearly exhausted his strength by profuse bleeding from large veins on its surface. He was immediately admitted into St. Vincent’s Hospital.

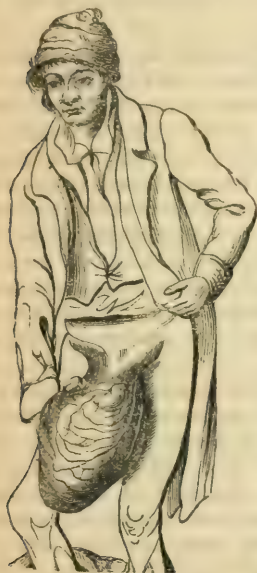
His hair and eyes were dark, his colour very pallid, with a remarkably pensive expression of countenance.

The figure of the tumour was irregular; it arose by a pedicle from the pubis and perineum, and expanded in its descent into a huge mass, the widest portion of which was about four inches above its lowest part. The integuments which covered the pedicle were evidently borrowed by traction from the abdomen and groin, and presented four distinct and prominent folds; the skin covering the tumour was smooth, it was marked by numerous large venous trunks which traversed its surface, and lay in furrows easily traceable by the finger. A small ulcer in the integuments over one of these veins marked the point from which the hæmorrhages had taken place. The left lateral aspect of the tumour, near its neck, exhibited several trunks of veins larger than swan's quills, running parallel to each other, and, when the patient was in the erect position, projecting in strong relief. When poised upon the hands, it gave the impression of considerable specific weight; its consistence was unequal; its hardest portion was an irregular mass of the size of an orange, of cartilaginous density, and situated about an inch below the left external abdominal ring. The greater portion of the tumour was solid, though not gristly to the touch. At two or three points of the remainder, there was a degree of elasticity closely resembling fluctuation. The situation of the genital organs was as follows:—Of the penis, the glans was the only portion visible; it projected from the integuments at a point about three inches below the pubis, the remainder of this organ was buried in the morbid growth. The right testis could be felt about three inches below the corresponding ring; it glided up and down freely under the integuments, and was evidently healthy. The cord of the left side for about an inch of its extent could be felt, but at considerable depth; its veins were enlarged, and it was lost below in the substance of the tumour. This portion of the cord, however, did not appear to contain any morbid deposit. The exact situation of the left testis could not be satisfactorily ascertained. The patient pointed to a spot at the bottom of the tumour, which, from the peculiar sensation he experienced when it was pressed, he believed to contain the testicle. Neither the groin nor abdomen presented any evidence of glandular or other disease. From the pubis to the fundus of the tumour measured twenty-eight inches, the circumference about its middle was 22.5 inches. The weight of this enormous mass was the principal source of inconvenience; and to obviate this the poor fellow had constructed a bag, which was supported by straps passed over the shoulders and hips.

In the hospital Smith spoke very little, and was accustomed to sit for hours on the chair by his bedside, while the other patients congregated round the fire. It was easy to perceive that the nature and situation of his disease had affected his spirits. When questioned about his complaint, he was not loquacious, but his answers shewed that it had occupied his thoughts and engaged his constant attention; for his description of its course, and his remarks on its pre-

sent condition, were unusually clear and consistent for his class in life.

It was ten years, he said, since he first perceived a hard swelling on the cord, the size of a marble, about an inch above the left testicle. As it was unattended by pain, it gave him no concern, and was allowed to increase in size for four years, when he came to Dublin for advice. After remaining for six weeks in one of the hospitals, he became tired of remedies, and returned again to the country. The tumour continued progressively to enlarge, until it acquired the size and appearance represented in the annexed sketch.



The last hæmorrhage from the veins of this tumour amounted, he was convinced, to two quarts of blood. The exhaustion was very great, and rendered him for some time unable to pursue his avocations; the dread of its recurrence, as well as the hindrance to his business, occasioned by the weight of the tumour, rendered him very anxious for relief. He was now directed to have nourishing diet, and chalybeate medicines were employed with a view to his anæmic state.

In the meantime the tumour was carefully examined by several surgeons of great experience, the majority of whom were disposed to advise an operation. In this view I concurred, and our opinions were founded on the following considerations:—First, it was obvious to any person conversant with diseases of this sort, that no other remedy, internal or external, could make

any impression on the tumour. Secondly, the patient's constitution was gradually yielding under the complaint: his spirits and comfort were destroyed, and his capability of earning a subsistence for his family was materially diminished. He was, besides, in apprehension of a sudden death from a loss of blood such as had occurred before.

Of the exact nature of this morbid growth, various opinions were entertained. Some thought it resembled the scrotal tumour seen in tropical climates; some considered it as essentially a malignant disease; while others were inclined to hope that the elastic portions of the tumour might be considered as indicating the presence of large cysts, the evacuation of which might lead to a favourable result. With respect to the first of these opinions, I remarked that no portion of the integuments covering the tumour presented any abnormal alteration analogous to the scrotal elephantiasis. Of its malignant nature it was difficult to speak with equal certainty. The different consistence of different portions of the tumour gave

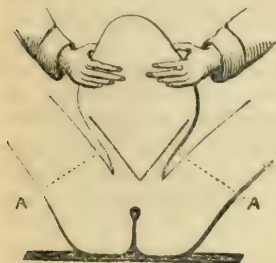
the entire a suspicious character, and led me to believe that, whatever its original structure might have been, it had undergone some change. The entire absence of lymphatic contamination or abdominal tumour, afforded a hope that, whatever this conversion might be, it was not beyond the reach of operation. The hypertrophy of the superficial veins did not, I knew from experience, contra-indicate excision; I had seen this state on large adipose tumours, when they were pendulous, and I had removed them with complete success. From the history of its progress, as well as the feelings of the patient with regard to the locality of the testis, it was probable that the tumour originated in the cellular tissue of the cord, and displaced the testicle in its descent.

The operation was, therefore, proposed, and assented to by the patient, and a day fixed for its performance. Before the time arrived, however, the poor fellow's courage failed him, and he requested to have it postponed. This wish arose partly from a consciousness of weakness, and partly from his believing that some medical gentlemen considered the great bulk of the tumour to be liquid. The latter impression induced him to entreat me, on several occasions, to make a puncture. I could not, however, consent to irritate the tumour by the trochar unless he was prepared to have it immediately removed, if found to be solid. The experiment might otherwise have cost him his life. He could not make up his mind to the alternative, and he was, of course, not pressed further on the subject.

On my return from a short visit to England, I found him exceedingly anxious to have the operation performed. He had had another alarming hæmorrhage from one of the large trunks of veins. On awaking one morning he found himself in a fainting state, the bed deluged with blood, which was dropping freely on the floor. He estimated the quantity lost at more than three pints of blood. It was obvious that another such hæmorrhage would destroy him; and it was, therefore, with the concurrence of Sir P. Crampton, Doctor Wilmot, my colleague, and others, decided to operate as soon as his powers were sufficiently recruited. The operation was performed on the 29th November, 1844, in the presence of a large assembly. The theatre being spacious and well ventilated, the patient suffered no inconvenience from the crowd. On this occasion I was also honoured by the presence and counsel of almost every hospital surgeon of eminence in town.

My intended plan of operation, by which I hoped to avoid the profuse hæmorrhage which had rendered these operations always dangerous, and sometimes fatal on the spot, was to place the patient on his back, and to have the tumour poised for a sufficient length of time to empty its vessels, before the incisions were commenced. Some of my friends urged me to give up this plan, and commence the operation in front, by securing the spermatic cord. I objected to this course, because it would deprive me of my best means of avoiding venous hæmorrhage, and besides that, when the perineal incisions were to be performed, the parts would be obscured by the blood trickling from the groins.

The patient was now placed in the position for lithotomy, and the tumour was raised and supported by Mr. M'Swiney, so as to keep the integuments over its perineal aspect on the stretch. I was now requested, by some of my friends who had assisted me, to puncture the elastic portion of the tumour with a trochar. Nothing came through the canula but a little venous blood. With a large broad-backed bistoury I now made in the perinæum two straight incisions, meeting at an angle, salient towards the anus (as in the annexed sketch).



Keeping close to the tumour, the incisions were carried rapidly round its under and lateral surfaces, exposing on the right side the covering of the testicle, which was drawn carefully aside by Mr. Trant, and on the left a bunch of cylindrical convolutions as large as the finger. The effect was startling, and it was asked by some present whether it could be a hernia through the thyroid foramen. Their uniform blue colour, solid feel, and entire absence of gaseous

contents, at once convinced us that it was an enormous varix of the cord of the left side. The tumour, being now detached as far as possible laterally and underneath, was allowed to descend to a nearly horizontal position, in order to complete the operation in front. Two straight incisions, carried downwards from the groins, were made to meet at an angle, so as to include a portion of integument capable of covering the urethra, and fitting into the incisions previously made below. The directions of these incisions are visible in the third sketch. Two short incisions connected the limbs of the two angles previously made. The tumour was now rapidly detached, and the cord held by Mr. Fleming was cut across. A few strokes of the bistoury completed the separation of this enormous mass from the body of the patient.

The vessels of the cord and a few small subcutaneous branches were now secured, and the patient was put to bed. The loss of blood was very inconsiderable, not exceeding perhaps four ounces. I cannot say what length of time was occupied by the excision, but I am assured by several gentlemen present that it was completed in eight minutes.

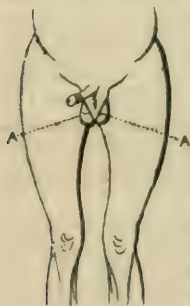
Some warm wine and an opiate were required, on account of the chilliness incidental to the exposure of his person during the operation. After a few hours, the flaps of integument were brought together by sutures, and it was remarkable how completely the painful and aching sensation he experienced in the right testis was removed by the pressure of the flap drawn tightly over this organ. Another fact, interesting in a physiological point of view, was then observed. The integument which for ten years had been drawn over the tumour, had now returned rapidly to its original position,

giving the appearance as if the incisions had been made across the middle of Poupart's ligament, downwards on the thigh. The lymphatic glands and cellular tissue in the inner half of the root of the thigh, were exposed to view; when the flaps were brought together, however, these parts were covered again.

The detail of occurrences from this to the period of convalescence, would, although highly interesting, be tedious, perhaps, if minutely described. About nine days afterwards, and when the wound was looking healthy, a patch of erysipelas was discovered over each tuber ischii. This epidemic was so prevalent at that moment in the city, that every hospital contained a number of cases of the disease. The erysipelas spread gradually down the thighs, and upwards towards the loins, and ultimately reached the shoulders; but fortunately did not approach the situation of the wound. A good deal of fever, and some degree of exhaustion, accompanied this affection. The pulse, always rapid, occasionally became alarmingly weak. A slight degree of delirium sometimes occurred at night. The treatment consisted in Donovan's syrup of bark, ammonia, and a liberal allowance of port wine.

After ten days, the erysipelas stopped about the scapulæ, and the fever in a great measure subsided. In two days afterwards, however, he complained of soreness in the occiput, where it lay on the pillow. The integuments were found to be swollen and erysipelatous. From this point the erysipelas spread over the scalp, forehead, and face; and after seven or eight days subsided altogether.

During this period the wound continued to heal, and eventually presented the appearance represented in the annexed sketch.



About the 2nd of January, Smith suffered an attack of rheumatism, affecting the backs of the hands, wrists, elbows, and shoulders. There was swelling, redness, and exquisite tenderness to the touch. The pulse became frequent and full, though compressible; and his skin perspiring freely, emitted the peculiar odour of the disease. Donovan's syrup of cinchona was given in drachm doses, three times a day, and the affected parts were fomented, with great relief. He recovered rapidly.

With a view to restore his constitution, already reduced by hæmorrhages, and so to avert the invasion of other illness, he was advised to leave town—his appetite and spirits being better than he had found them to be for years.

Examination of the Tumour.—It now remains to describe the appearances exhibited by the tumour on dissection. A loose capsule of condensed cellular tissue enveloped the morbid growth. A section carried through its middle shewed that the whole was perfectly solid, and without the slightest appearance of a cyst. The cut surfaces reminded us strongly of the section of the larger varieties of fibrous tumour of the uterus. Whitish, with the slightest possible tinge of yellow, the substance appeared to consist of a number of lobules,

separated by lines of condensed cellular tissue, and marked here and there by minute granules of calcareous deposit. The greater number of bloody points presented by the section, however, distinguished its appearance from that of the fibrous tumour of the uterus. Some of the lobules almost resembled in density a section of the intervertebral substance. Others, more elastic, appeared to have undergone a change, approaching the character of encephaloid disease. This impression was confirmed by Dr. Houston, who found that it presented under the microscope the mixture of fibres and cells characteristic of malignant structure. It was in these situations that the deceptive feeling of a cyst had previously existed. The left testis was, after a careful search, found to occupy the position mentioned by the patient. It was atrophied, but otherwise unchanged, and lay inclosed in its moist and polished tunica vaginalis. The cord above it was lost in the tumour.

Remarks.—It is impossible to dismiss this important case without some reflections on the nature of the tumour, the propriety of undertaking its removal, and the best mode of performing the operation in such cases.

There is but one affection with which a tumour of this magnitude could be confounded—the elephantiasis scroti. The characters peculiar to hernia, hydrocele, &c., would, if they exceeded their ordinary dimensions, be sufficient to distinguish them. The encephaloid disease of the testis, as a primitive lesion, generally terminates fatally, before it has acquired a fourth part of the bulk of the tumour in question. The fatal event is accelerated by the development of malignant disease in the course of the lymphatics, or in some of the viscera essential to life. In the case of Smith, the enormous size of the tumour, and the situation of the penis, buried in the mass, brought the tropical disease strongly to mind; but it could not fail to be remarked, that the prepuce was healthy, and presented none of the warty and tuberculated appearances which belongs to that affection. The integument covering the tumour was also free from this peculiar change, and could, in the interval between the varicose veins, be pinched up like healthy skin, shewing at once its own integrity, and that of the subcutaneous cellular tissue. The history of its growth was more worthy of credit than those usually given by hospital patients. It commenced, according to Smith's account, about an inch above the testicle, in the form of a small hard lump, pushing the testis downwards as it enlarged. This, together with the peculiar sensation of the presence of the testis at a point, near the fundus of the tumour, was nearly conclusive of its origin in the cellular tissue of the spermatic cord. The section of the tumour confirmed the opinion of its locality. The anatomical characters of the tumour seem to shew that its structure was fibro-cellular in the commencement. All tumours, including even the adipose, are liable to undergo changes, depending on corresponding changes in the constitution of the individual. It is probable that the earliest manifestation of this constitutional change will take place in parts of adventitious formation, being less than others within the protection of the

organism. We are not in possession of facts capable of determining the signs by which the advent of this diathesis can be recognised; but the occasional permanency of health, after the removal of a solitary deposit of admitted malignancy, seems to shew that there is a period when excision may be a legitimate preliminary to appropriate medical and hygienic treatment. Time alone can tell, whether the conversion which Smith's tumour had in part undergone, is to be followed by the development of mischief elsewhere.

The propriety of undertaking its removal is next to be considered. There is, I apprehend, a want of fixed principles for the regulation of our conduct in deciding the question of operation. There can be no real weight in a mere majority in consultation, unless the opinion of each have reference to some common and acknowledged principle. Haste or inexperience might otherwise influence the decision, and an injudicious operation be performed. These considerations have led me to adopt and teach the following rules, which, until better be proposed, shall serve to guide me in these matters. Presuming that a correct diagnosis is made, we should, before proceeding to operate, be satisfied—first, that while the operation offers a reasonable hope of advantage to the patient, no other mode of treatment, internal or external, affords the least prospect of success; secondly, that the operation be planned for the particular case, both with a view to the immediate safety and future comfort of the patient.

The case here related wore an aspect so unpromising, that more than one surgeon of eminence said they would not attempt its removal; and yet the operation was, I have reason to believe, undertaken in perfect accordance with the rules laid down. No other mode of treatment afforded the least prospect of success; for whatever may be thought of Mr. Frazer's method in the elephantiasis scroti, no practitioner at all familiar with disease would think of subjecting a tumour of this description to the irritation of incisions, or the seton. Neither could iodine, or other minerals, be expected, even in the highest doses, to promote its absorption. The operation offered a reasonable hope of advantage to the patient, by giving him the earliest chance at our disposal of escaping the malignant changes incidental to tumours of long standing. It was not contra-indicated by glandular or visceral complication; and it was in some measure demanded, by the constantly impending danger of sudden death from hæmorrhage.

On the second condition, viz., the plan of the operation, I shall now make a few concluding observations. The future comfort of the patient was provided for, by contriving the incision so as to preserve sufficient covering for the urethra, testis, &c., as will be seen in the third sketch. In order to secure his immediate safety, it was necessary to provide against two sources of exhaustion. The first, and most perilous, was loss of blood; and it would be difficult to imagine a case in which the system had less to spare. The second, was protracted suffering; the continuance of pain beyond the limits of vital endurance. However influential the latter cause of exhaustion may have been in producing the untoward result in the case of

Hoo Loo, the Chinese operated on in London in 1831, it was to the loss of blood that those concerned, and most capable of judging, attributed his death. The time occupied by the operation was an hour and forty minutes; the loss of blood was about twenty-five ounces; and, what is most material to our present inquiry, twenty-four ounces of this amount were venous blood. "He breathed after the operation, but it was as much as could be said. Transfusion and artificial respiration were tried in vain." In this case, the incisions were commenced in front. In Mr. Liston's case, which recovered, the incisions were commenced in the perinæum, but the tumour was depending. The flow of blood is described by this able surgeon to have been "so instantaneous and abundant, that it was compared by those present to the discharge of water from a shower-bath." The patient rolled off the table on which he had been leaning, without pulse, and the operation was completed on the floor.

Now the loss of venous blood in large quantity, at a moment when another source of exhaustion—namely, pain—is exerting its depressing influence, is manifestly full of peril to life; and it cannot escape observation, that in both the cases the incisions were made while the venous system of the tumour was in a state of repletion. It was reasonable, therefore, to expect that an inverted position of the tumour might, in similar cases, lessen the danger and the loss. Every one is familiar with the different appearances presented by a varicose leg, in the depending and inverted position. I had on former occasions applied the principle, in removing large pendulous tumours of the adipose kind, and with considerable saving of blood; and I have already described the mode in which it was made available in Smith's case.

The removal of a large tumour is not the only operation in which it might contribute to the security of the patient to make it a rule—that wherever circumstances shall permit, the horizontal position should be selected, as best calculated to prevent syncope, as well as to assist in restoration, if fainting should occur—and that the part to be removed should be so raised as to favour the return of its venous blood, and keep it as much as possible in the anæmic state.—*Nov.* 30, 1844.

RETROSPECT

OF MATERIA MEDICA AND THERAPEUTICS.

By J. M. NELIGAN, M. D., M. R. I. A.,

LECTURER ON MATERIA MEDICA IN THE PETER-STREET SCHOOL OF MEDICINE; ONE OF THE PHYSICIANS TO JERVIS-STREET HOSPITAL.

Alkalies as a Remedy in Cutaneous Diseases.—M. Devergie has recently published some interesting observations on the alkaline treatment of skin diseases. He has employed alkalies in both papular and scaly affections; but with most success in the former, and particularly in the various forms of lichen. He employs three salts: the bicarbonate of soda, the carbonate of soda, and the carbonate of

potash. The first of these he administers only internally, and usually prescribes it in solution, in some mild stimulant bitter infusion, or in carbonic acid water, the latter being an imitation of Vichy water. The dose at first is fifteen grains daily, in three or four glasses of the infusion, and this dose is augmented by eight grains every third day, until it arrives at one drachm, which dose is not exceeded. Externally the alkaline treatment is used in four different forms: in baths, in lotions, in powder, and in ointment. For the preparation of baths, either the carbonate of soda or carbonate of potash is employed—the quantity used for a single bath varying from eight to sixteen ounces, the strength being gradually increased. For scrofulous or debilitated individuals, he recommends the addition of one pound of common salt to each bath. The alkaline lotions are found of special benefit in skin diseases affecting parts covered with hair, as in the scalp, where they are usually so obstinate. For a lotion, from two to three drachms of carbonate of soda are dissolved in a pint of water. To the benefits derivable from the use of this alkaline wash in chronic eczema and impetigo of the scalp, we can bear testimony, from an extensive experience of its employment, both in hospital and in private practice. The alkalies are used in the form of powder, as a depilatory, in tinea and in sycosis mentis. M. Devergie, however, employs the alkalies chiefly in the form of ointment, and sometimes combines a little quicklime, or a little sulphur, with them. He uses ointments of different strength, according to the nature of the disease. Thus, for lichen and its forms, the proportion is from eight to fifteen grains of carbonate of soda to the ounce of lard; for lepra, psoriasis, or ichthyosis, fifteen to thirty grains to the ounce of lard; and for porrigo favosa, thirty to sixty grains, with a grain or two of quicklime. It must be remembered, that the carbonate of potash is more caustic than the carbonate of soda. The following are some of the formulæ he employs:—*Alkaline Liniment*.—Carbonate of soda, $\bar{\text{z}}$ i. ; olive oil, $\bar{\text{z}}$ iv. ; the yolk of one egg ; first moisten the carbonate of soda, and then incorporate it with the oil and yolk. *Alkaline Syrup*.—Bicarbonate of soda, $\bar{\text{z}}$ ss. ; simple syrup, $\bar{\text{z}}$ viii. ; dose, a teaspoonful, morning and evening, in a glass of water. *Alkaline Powder*.—Carbonate of soda, in an impalpable powder, one part ; fine starch, ten parts. For external use only (a).

Ammonia as a Vesicant.—The stronger solution of ammonia has been much employed on the Continent, particularly in France, for some years back, as a speedy blistering agent, but has been very little used hitherto in this country. Various directions are given, as to the mode in which it ought to be employed, but Dr. Gondret's ointment is the preparation in most general use, and is the one most highly spoken of. As prepared according to the formula originally published by him, it has been found in many instances not to act satisfactorily. The inventor of it, in consequence, recently made

(a) *Annuaire de Thérapeutique*, 1846.

public the following formula for its preparation :—Take of axunge, \bar{z} i. ; oil of sweet almonds, \bar{z} ss. ; melt together with a gentle heat ; pour the mixture, while still liquid, into a wide-mouthed glass vessel ; then add, solution of caustic ammonia, \bar{z} v., and mix with constant agitation till cold. Particular care must be taken that the axunge be merely melted ; if it be too fluid, or too warm, some of the ammonia will be vaporized, and the resulting ointment too weak. The ammoniacal ointment, thus prepared, retains its properties for many months, if kept in stoppered glass bottles in a cool place. Gondret's blistering ointment produces vesication in about ten minutes ; it is applied, by spreading it on the skin, and covering the part with a compress. The French use it most frequently for blistering the temples in diseases of the eyes. The rapidity and certainty of its action, however, renders this vesicant of great value in many diseases which need not be enumerated here(b).

Ammonia as a Remedy in Asthma.—M. Rayer has recently published his experience of the effects of strong water of ammonia applied to the velum palati for the cure of asthma. M. Monneret and others had previously employed this mode of treatment, but they applied the caustic to the back part of the pharynx, and in some instances death had nearly ensued from suffocation, owing to the action of the volatile alkali on the glottis. M. Rayer's method of employing this remedy is as follows:—he dips a roll of lint, about the length of the middle finger, in a mixture of four parts of strong aqua ammonia and one of water, pressing out the superfluous liquid, and immediately applies it for a few seconds to the velum palati, as if about to cauterize the part. The patient is immediately seized with a feeling of suffocation ; a fit of coughing ensues, with much expectoration, and this is soon followed by a great feeling of comfort and facility of respiration. Should any return of the fit occur on the day following, the ammonia is again applied. The degree of tolerance of this remedy by patients varies very much ; it is, therefore, always well to use it weak at first, which is easily done by moving the piece of lint, dipped in the solution, three or four times rapidly through the air, and then smelling it, when the strength is readily ascertained. In M. Rayer's experience, extending to over a hundred cases, a single application rarely failed to afford relief, and in many instances prevented a return of the attack for three or four months. This mode of treatment is alone applicable to simple or idiopathic asthma, that form which is so often dependent on emphysema, and is attended with catarrh ; it has, nevertheless, afforded relief in some cases of symptomatic asthma(c).

Arseniate of Quina.—This salt, first prepared by M. Bourières, has latterly been much used in France in the treatment of obstinate intermittents, and, it is stated, with much success ; the chief obstacle to its more general employment being, according to Dr. Boudin, its

(b) *Journal de Pharmacie*, January, 1846.

(c) *Annales de Thérapeutique de Rognetta*, November, 1845.

extreme bitterness(*d*). It is readily prepared as follows:—Dissolve half an ounce of sulphate of quina in boiling water, and precipitate it with ammonia; wash and dry the precipitate, and dissolve it with the aid of heat in three ounces of distilled water, containing two scruples of arsenious acid in solution; as the solution cools, crystals of arseniate of quina are deposited, which are to be dissolved in distilled water and recrystallized. It is a light, white salt, crystallized in brilliant satiny needles. It is soluble in water, but more so in boiling than in cold water; it is also soluble in weak alcohol, but is insoluble in absolute alcohol or in ether. The dose of it is from one to two grains in divided doses in the course of twenty-four hours. It is usually given in solution in distilled water, to which a little simple syrup may be added(*e*).

Belladonna.—An ointment consisting of one part of the extract of belladonna to three of lard, has been used with much benefit by Dr. Phillippe, chief surgeon to the Military Hospital at Bordeaux, for the cure of inflammation of the testicle, whether arising from direct injury or as the result of urethritis. He employs it in every stage of the disease, but states that he finds it most useful when the acute inflammatory symptoms have been previously subdued by antiphlogistic treatment, or in cases where induration and thickening of the epididymis remain after other treatment. About half a drachm of the ointment, prepared as above described, is rubbed into the scrotum twice daily, the inunction being continued for five minutes each time. The mean period of cure was five days in thirty cases thus treated. Dr. Phillippe also employs this ointment with most beneficial results in the treatment of buboes(*f*).

In the incontinence of urine in children, Dr. Morand has administered extract of belladonna internally, with almost invariable success. He prescribes it in the form of pill, each pill containing a fifth of a grain of the extract. For children from four to six years old he orders one of these pills to be taken night and morning; if at the end of eight days no effect is produced, he directs a third to be taken in the middle of the day. If, after fifteen days, there is no improvement, a fourth pill is added at bed-time, but the poisonous effects of the drug must now be closely watched, as they are often suddenly developed. For children of the age of eight, twelve, or fifteen years, three pills daily are at first administered, and the quantity, at the end of eight days, gradually increased to six. Even this latter number is sometimes exceeded; eight, ten, twelve, or fifteen pills daily being often requisite to effect a cure in youths. In Dr. Morand's practice, from two to four months' use of this remedy are ordinarily sufficient to produce a radical cure of this intractable malady(*g*).

Schroeder has employed the vapour obtained by burning bella-

(*d*) *Annuaire de Thérapeutique*, 1846.

(*e*) *Journal de Chimie Médicale*, vol. xi. p. 283.

(*f*) *Journal des Connaissances Médicales*, October, 1845.

(*g*) *Annuaire de Thérapeutique*, 1846.

donna leaves to check hemoptysis. From a drachm to a drachm and a half of the dried and cut leaves is thrown on red-hot coals, and the patient respires the fumes as they arise. This simple remedy has, in Dr. Schroeder's hands, seldom failed to check hemorrhage from the lungs(*h*).

Benzoic Acid.—A few years since Dr. Ure, of London, reasoning on Liebig's theory of the conversion of uric into hippuric acid, by the action of benzoic acid when taken into the stomach, recommended the latter as a remedy for calculous diseases where uric acid predominates, and this proposal led to its adoption in practice to a certain extent. Soon after, however, Keller published, in Liebig's *Annals of Chemistry and Pharmacy*, the result of some experiments on himself, by which it was proved that the supposition of Dr. Ure was false, inasmuch as the urine of individuals who had taken benzoic acid, still contained the usual amount of uric acid after the separation of hippuric acid. More recently, Messrs. Booth and Boyé have investigated this subject anew in America, and the results of their experiments may be stated thus:—1st, The formation of uric acid in the healthy urine is not affected, either in regard to its quantity, or its external properties in general, by the introduction and transformation of benzoic acid into hippuric acid in the system. 2nd, The time required for the benzoic acid to pass through the system, and reappear as hippuric acid in the urine, is from twenty to forty minutes after its introduction with food into the stomach; its occurrence continues for four or eight hours, but then ceases. 3rd, The quantity of hippuric acid obtained from the urine is greater than that of the benzoic acid taken. In round numbers it may be stated to be one-third more. 4th, Urea is not in combination with hippuric acid in the urine(*i*). From these results it is evident that benzoic acid is not to be looked upon as a remedy for uric acid diseases.

Bromine and its Preparations.—The very high price which iodine has attained within the last twelve months, has rendered it very desirable that a substitute should, if possible, be obtained for this medicine, which is at present so extensively employed. Bromine and its preparations have been shewn by the experiments of Magendie, Barthez, Brame, and others, to possess therapeutical properties as nearly as possible identical with those of iodine and the iodides. The scarcity, however, of bromine, and, consequently, its commercial value, has hitherto prevented its general employment as a remedial agent; but the recent discovery of it in large quantities in America has recalled attention to this substance as a substitute for iodine. Mr. O'Reilly, of this city, while lately in the neighbourhood of New York, having had his attention called to the peculiar properties of the mother waters of many brine springs in the United States—the result of their evaporation for procuring common salt, found by experiment that they contained bromine in large quantities—nine

(*h*) *Annali Universi di Medicina.* April, 1845.

(*i*) *Transactions of the American Philosophical Society*, vol. ix.

drachms in every gallon. Having procured a large amount of bromine from this source, he has brought a hundred pounds weight of it home, and states that he can obtain an almost unlimited supply of it: the price at which it is now sold in Dublin is eighteen pence an ounce, while the present price of iodine is three shillings and sixpence an ounce. These circumstances have induced us to include in our retrospect a short account of the doses and mode of administration of bromine, and its preparations.

The forms in which it has been used on the Continent are, in the simple state much diluted, and combined in the form of bromides with potassium, barium, calcium, iron, and mercury. These preparations are made by processes exactly similar to those used for procuring the corresponding combinations of iodine. As a substitute for the tincture of iodine, M. Pourche has employed the following solution: bromine, one part; distilled water, forty parts; dose, from five to six drops in some aqueous vehicle, three or four times daily. For external use he employs a solution four times as strong as this. The *bromide of potassium* is very soluble in water, sparingly soluble in alcohol; the dose of it is from four to eight grains three times a day: to prepare an ointment from it, four parts are rubbed up with thirty-two parts of lard; and if a stronger ointment, or one resembling the compound iodine ointment, be wished for, six drops of bromine are added to this. The *bromide of barium* is also soluble in water; the dose of it is from one to five grains three times a day: the ointment is prepared by combining it in the proportion of one part to ten of lard. The *bromide of calcium* is prescribed in the form of pill made with the conserve of roses; the dose of it is from three to ten grains. The *bromide of iron* is a brick-red deliquescent salt, very soluble in water; it is not so easily decomposed as the iodide of iron, and is given usually in the form of pill made with conserve of roses and gum arabic; the dose of it is from one to three grains: it has been employed externally also in the form of ointment, prepared with one part of the bromide to fifteen of lard. Two *bromides of mercury* have been used: the first, a sub-bromide, is a white insoluble powder; the dose of it is one to two grains daily: the second, a bromide, is fusible and volatile, and soluble both in water and alcohol; its dose is one-sixteenth of a grain, gradually increased to one-fourth of a grain, daily. All the preparations of bromine may be readily known from those of iodine by their not disengaging violet-coloured vapours when concentrated sulphuric acid is poured on them(*j*).

In France, bromide of potassium has been of late fraudulently sold for iodide of potassium, in consequence of the high price of the latter; a sophistication of but little importance, if, as we are inclined to believe, the medicinal action of both be identical(*k*).

Camphor.—An adulteration of this substance with muriate of

(*j*) Dorvault's, Bouchardat's, Foy's, Moure and Martin's, and Geiger's Treatises on Materia Medica.

(*k*) *Journal de Chimie Médicale*, February, 1846.

ammonia has been lately detected in Brussels(*l*), and is said not to be uncommon in France; we are not aware that the fraud has been practised in British commerce as yet. It may be readily detected by the action of quick-lime, which would liberate the ammonia; or by treating a suspected specimen with water, which would dissolve out the muriate of ammonia.

At a late meeting of the *Société Medico-pratique* at Paris, many of the members cited facts tending to prove that camphor is a medicine the abuse of which is extremely dangerous. M. Homolle related a case of phthisis in which he prescribed more than twenty grains of camphor, in divided doses, in the twenty-four hours; the effect of which was, that the patient was attacked with frightful dyspnœa, continued nausea, and violent palpitation of the heart, all of which symptoms were with much difficulty subdued. Dr. Gaide mentioned the case of a man who was in the habit of taking camphor in very large doses, as a consequence of which he became affected with aggravated diphtheritis. M. Moreau stated, that he had seen a lady attacked with acute meningitis, which only yielded to the most active treatment, from having taken large doses of camphor to cure an obstinate neuralgic affection. Dr. Labarraque said, that a butcher, for whom he had prescribed six grains of camphor, was attacked with violent vomitings which nearly proved fatal(*m*).

Castor Oil.—The mildness and certainty of operation of this cathartic give it peculiar advantages in the treatment of many diseases; very often, however, its tendency to produce vomiting prevents it from being employed. To remedy this inconvenience, M. Parola proposes the substitution of an extract, an ethereal, and an alcoholic tincture of castor-oil seeds, for the oil itself. The result of his experiments on himself and on numerous sick and convalescent individuals is as follows:—1st, That the ethereal and alcoholic tinctures have a purgative action four times as strong as the oil obtained by expression, and that they are not so apt to produce vomiting, nor so irritant as the ordinary oil. 2nd, That these new preparations remain unalterable for a long period without reference to climate or season. 3rd, That the ethereo-alcoholic extract possesses a purgative action comparatively weaker than the marc or pulp from which it is extracted, proving that the seeds contain a principle which is insoluble in alcohol or ether. 4th, The advantage of the new preparations, so far as relates to their not causing vomiting, is easily explained by the smallness of the dose in which they are administered(*n*).

M. Righini has directed much consideration to the devising of a formula for prescribing castor-oil, and the following form, in which the purgative properties are not in the least diminished, he states to be free from the usual inconveniences of a dose of this medicine:—Take of finely-powdered gum-arabic, ʒii.; pure water, ʒiii.; make

(*l*) *Journal de Pharmacie d'Anvers*, 1845.

(*m*) *Journal de Pharmacie*, February. 1846.

(*n*) *Gazette Médicale de Paris*, February 7th, 1846.

a mucilage with a small quantity of the water, and then add of castor-oil ℥ i. ; mix carefully, and afterwards pour in, while agitating the mixture, the rest of the water; finally add, with constant agitation, the filtered juice of one orange, and one ounce of simple syrup(o).

Carragheen Moss.—Dr. Frank, of Wolfenbuettel, employs a compound powder of Irish moss as an article of diet for phthi-sical patients, and for children affected with *tabes mesenterica*. It is prepared as follows, and has a most agreeable taste:—Take of Carragheen moss, cleaned, ℥ ss. ; spring-water, ℥ xvi. ; boil down to one-half; strain with expression; and add to the strained liquor, white sugar, ℥ iv. ; gum-arabic, in powder, ℥ i. ; and powdered orris-root, ℥ ss. ; heat to dryness with a gentle temperature, stirring constantly, so as to obtain a pulverulent mass, to which three ounces of arrow-root are to be added with trituration. A jelly is prepared with this powder, by rubbing up a tea-spoonful of it with a little cold water, and then pouring a cupful of boiling water on it(p).

Iron.—The combinations of this metal with the vegetable acids have been much employed in medicine of late years, and many practitioners prefer them to the older preparations—the sulphate and muriate. Bouchardat has recently laid down the two following propositions with reference to the forms in which iron should be prescribed. 1st, That it should be either in the state of protoxide or in that of the pure metal, which is converted in the stomach into a salt of the protoxide; and 2nd, that the protoxide should be united to carbonic, or to some other organic acid which is capable of being assimilated. In compliance with these propositions, the best preparations of iron are, amongst the insoluble, iron reduced by hydrogen and the carbonate of the protoxide; and amongst the soluble compounds, the lactate and citrate of the protoxide. The three latter are at present very generally prescribed in this country, and consequently ordinarily to be met with in apothecaries' shops; but the use of the former is as yet confined to the Continent, where it is held in high esteem. The employment in medicine of iron reduced to the state of minute division, by means of hydrogen, is due to the observations of MM. Quevenne and Miquelard. To obtain it, a certain quantity of black oxide of iron (*Æthiops martis*) is introduced into a tube of porcelain, which is heated to redness; and a current of hydrogen gas is then passed over it until it is reduced, which ordinarily occurs in from seven to eight hours. The chief circumstance to be attended to, during the operation, is the state of the temperature. If it be not sufficiently high, the reduction does not take place; and if it be too high, the iron is reduced, but is agglutinated into ductile plates. For preparing it on the large scale, a metal water-pipe is employed, and the oxide is placed on numerous small shelves made of sheet iron and supported on small iron bars.

(o) *Journal de Chimie Médicale*, January, 1846.

(p) *Journal de Chimie Médicale*, September, 1845.

When properly prepared, *reduced iron* (*fer réduit*) is in the form of a fine light powder, of a bright greyish slate-colour, in very minute division, and free from any trace of sulphur. The advantages which iron in this state possesses as a therapeutic agent are, first, that it is readily acted on by the weak acids—the lactic and muriatic, which are ordinarily present in the gastric juice during digestion; and second, that it is free from the inky taste which the preparations of iron possess in a degree proportioned to their solubility. The dose of it is from one to ten grains; it may be given in the form of pill or of bolus. The French physicians usually prescribe it made into pastilles with chocolate(*q*).

Iron Filings.—It has been always found a matter of much difficulty to preserve iron filings without their becoming oxidated. M. Giovanni Righini has discovered that they may be preserved for an indefinite period, even in paper, by first triturating them with an equal quantity of very dry sugar(*r*).

Iodide of Iron.—M. Cop has proposed the following very simple process for preparing the iodide of iron. Bruise together in a large mortar four parts of iodine, and two parts of water; then add quickly one part of iron filings. Sufficient heat is produced to drive off one part of the iodide in the state of vapour; the mixture becomes liquid; to remove the excess of iron it is to be dissolved in water and filtered. The filtered liquid is a solution of the iodide of iron, free from oxide or per-oxide(*s*). This solution may, of course, be readily preserved by adding a sufficiency of pure sugar to it to convert it into a syrup.

Mercury.—From the result of numerous experiments, M. Bouchardat draws the following conclusions with reference to the activity of the salts of mercury. Of the soluble compounds, the most active is the red iodide, rendered soluble by means of iodide of potassium; next to it, corrosive sublimate; and then the cyanuret. The activity of the insoluble compounds is in the following order: the red iodide, precipitated calomel, the yellow iodide, sublimed calomel, and metallic mercury. Bouchardat's experiments have been principally made on fishes; but his results agree very closely with the opinions of most therapists, and particularly with those of M. Trousseau(*t*).

Myrrh.—No analysis of myrrh having been published since that of Braconnot, which, from the small quantity of resin indicated by him, was manifestly imperfect, Ruickoldt has reinvestigated the chemical history of this substance. The myrrh which he analysed consisted of irregular, knotty, roundish, tear-shaped pieces, of the size of a hazel-nut; its colour was yellowish, with a reddish or even darker tinge. Its fresh fracture had a waxy lustre, in some places resinous, with white, opaque striæ, and amygdaloid indentations of

(*q*) *Annuaire de Thérapeutique*, 1846.

(*r*) *Journal de Chimie Médicale*, vol. xi.

(*s*) *Repertorium für die Pharmacie*, vol. xxxvii.

(*t*) *Annuaire de Thérapeutique*, 1846.

the same colour. Its specific gravity was 1·120 to 1·180. One hundred parts were composed of :

Volatile oil (<i>myrrhol</i>)	2·183
Resin (<i>myrrhin</i>)	44·760
Gum (<i>arabin</i>)	40·818
Water	1·475
Impurities	3·862
Carbonates of lime and magnesia . . .	3·650
Gypsum and oxide of iron	a trace.

96·748

Myrrhol undergoes decomposition on exposure to the air merely: it is thick, of a wine-red colour, and of a penetrating odour; is lighter than water, and is readily dissolved by ether and by alcohol. Its composition is $C^{41} H^{33} O^1$ differing scarcely from colophony and from sylvic acid. The resin is completely soluble in ether, but imperfectly so in alcohol; its solution has no action on turmeric paper; when heated to 336° F. it furnishes a very acid transparent liquid which has been named by M. Ruickoldt *myrrhic acid*. The composition of *myrrhin* is $C^{48} H^{32} O^{10}(u)$.

Nitrate of Silver in Hooping-Cough.—The following mode of treating hooping-cough has been very successful in the hands of M. Berger. In the first stage he employs moderate antiphlogistic treatment, purgatives and repeated emetics, particularly ipecacuanha in combination with tartar emetic. In the convulsive stage, in which the indication is to combat nervous irritation, not being satisfied with the results that he obtained from the use of the remedies ordinarily employed, he was induced to administer nitrate of silver, the effects of which, he states, are singularly beneficial. He prescribes it in doses of from a sixteenth to a twelfth of a grain three times daily at first, and afterwards four times a day; of course, it should not be given in cases where the state of the digestive organs contra-indicates its employment(x).

Oils.—M. Mahier has recently published some interesting observations on the action of bitter almonds, cherry-laurel leaves, peach blossoms, and their distilled waters, on the aromatic properties of essential oils. The observations first made on the action of the syrup of almonds in destroying the odour of musk, and since confirmed by M. Souberain, and, latterly, the effects of cherry-laurel water in similar circumstances, discovered by M. Fauré, of Bordeaux, induced M. Mahier to undertake the generalization of this reaction on essential oils, and on other strongly odorous substances. "Although," he says, "the results may not contribute much to scientific knowledge, they, nevertheless, possess some practical interest, if it be only in affording a quick and easy method of purifying bottles and other vessels from odours which it is found difficult to

(u) *Pharmaceutisches Central Blatt*, No. 20.

(x) *Annuaire de Thérapeutique*, 1846.

remove by other means. Having recently tried to remove, by means of vinegar and then of ashes, the smell from a marble mortar which had been used in the preparation of an enema of asafetida, the result being imperfect and unsatisfactory, I tried the use of bitter almond paste, the residue of some that had been used for preparing the syrup. Having rubbed a little of this in the mortar without its having the effect of removing the odour, I added a little water, so as to develop the bitter-almond odour; I rubbed it again, and then washed out the mortar with a good deal of water, by which means the odour of the asafetida was completely removed. This first trial induced me to apply this method to the cleansing of vials and bottles which had contained spirits of camphor, oil of spike, essences of cloves, mint, neroli, lavender, citron, and turpentine, oils of petroleum, copaiba, cod-liver, creasote, and different odorous balsams, and resinous tinctures. All the bottles were rendered completely clean, void of odour, and as good as new. It is necessary in cases where the vessels previously contained fatty matters, to cleanse them with cinders or potash, and to rinse out with spirit those which had contained resinous or balsamic tinctures, before using the almond paste. A few cherry-laurel leaves, or peach-blossoms, beaten into a pulp, and introduced into the bottles, produce the same effect as the bitter almonds. The same de-odourising action, it is fair to suppose, is possessed by all leaves and flowers containing prussic acid, and probably also by other strong-smelling substances(y)."

Pomegranate-root Bark.—This substance, highly praised in the East and on the Continent of Europe as a vermifuge in cases of tape-worm, enjoys in this country but a limited reputation. That the cause of this bad repute of the remedy is altogether owing to the mode in which it is prescribed we have been long convinced; we therefore lay before our readers the recently published observations of Dr. Mérat, who has been in the habit of using the root-bark of the pomegranate in his practice for the last twenty-four years, in which time, he states, he has never found it fail in curing tape-worm. To ensure success, he affirms that attention to the following conditions is indispensable: first, that the medicine should not be administered except on the day, or the day after that in which joints of the worm have been passed; second, that the individual should take in three doses, with an interval of half an hour between each dose, a decoction of two ounces of the *fresh* root of the cultivated pomegranate in twenty-four ounces of water, boiled down to nineteen ounces(z).

Savin.—As an application to venereal vegetations, Vidal (de Cassis) recommends a combination of one part of powdered savin, and two parts of finely-powdered alum. It is sprinkled over the vegetations, and the prepuce then drawn forwards; but where this

(y) *Journal de Chimie Médicale*, October, 1845.

(z) *Encyclographie des Sciences Médicales*, December, 1845.

is not possible, simple dressing is applied. The application is renewed twice daily(*a*).

Senna.—An interesting account of the natural history of this valuable medical plant has been recently published by M. Landerer of Athens. It is chiefly indigenous in Ethiopia, Arabia Felix, Abyssinia, Nubia, and Sennaar. The Arab tribes who occupy themselves with this branch of commerce, do not pay the least attention to the cultivation or management of the plants. The senna plant attains the height of eight or ten feet, and affords to the inhabitants of the Desert some protection from the heat of the sun. The senna harvest begins about the end of September. The Arabs cut nearly all the branches off the trees, and expose them to the sun until the leaves begin to fade, when they are placed on high ground, and on rocks, so as to be dried as quickly as possible. As soon as they are dry, the branches are laid in heaps and beaten with sticks to shake the leaves off. The leaves obtained by this process are not damaged, and consequently fetch the highest price, nearly double the sum given in the bazaars for the broken senna. As all the leaves are not separated by this means, the branches are, in some parts of Nubia, placed on a dry floor, and camels driven over them; the remainder of the leaves are thus obtained, but they are much broken, and small pieces of the stems are mixed with them. The senna collected in various parts of Africa is packed in linen sacks, and conveyed on camels in caravans to the shores of the Nile, where it is transferred to boats, and brought thus to Cairo and Alexandria. In both these capitals there are senna magazines, to which the bales are conveyed to be unpacked, and again carefully sorted. Within the last two years the senna trade was thrown open, but it has latterly again become a government monopoly. An intentional adulteration of senna with other leaves is, in their native country, out of the question, for the slightest adulteration is there punished as a capital crime. The fruit, which is rarely found mixed with the leaves, because it is carefully picked out, is in very general use in the countries where senna grows. Two varieties of senna are ordinarily met with in the bazaars of Constantinople and Smyrna; an Egyptian and a Tripolitan product(*b*).

Turpentine.—The following physiological effects of oil of turpentine have been noticed by M. Bouchardat while lately engaged in some experiments on this substance, during which he was exposed for five or six hours at a time to the inhalation of the atmosphere of the laboratory charged with its vapour. The effects were in no instance manifested until night, at the usual hour of repose. They consisted in sleeplessness, constant restlessness, heat of skin, the beats of the pulse increased from sixty-five to eighty-six in the minute; some difficulty in passing water, which possessed in a remarkable degree the characteristic turpentine odour, and on the following day very

(*a*) *Annuaire de Thérapentique*, 1846.

(*b*) *Repertorium für die Pharmacie*, Band. 37. Heft. 2, and *Pharmaceutical Journal*.

great lassitude, accompanied by pain and a feeling of weight in the region of the kidneys. The lassitude, debility, and inability to work, continued for two or three days afterwards. M. Bouchardat is of opinion that it is in consequence of habit removing their susceptibility, that painters, furniture-varnishers, and others exposed to the vapour of turpentine, do not suffer from these effects of its inhalation(c).

Valerianic Acid and the Valerianates.—Prince Louis Buonaparte was the first to call the attention of physicians to this acid and its preparations; but the process proposed by him for its preparation having been found expensive, and not applicable to the procuring of it on the large scale for use in medicine, a number of methods for preparing it have been published, both by Italian and French chemists. The Pharmaceutical Society of Paris recently requested a report on the different processes from MM. Cap, Louradour, and Blondeau, members of that body, and they have arrived at the conclusion, that the process of M. Brun Buisson is the best and most economical. It is as follows: take of the bruised root of valerian, two pounds; water, eight pounds; sulphuric acid, three ounces and one drachm; macerate for two days, and distil until the liquid no longer reddens litmus paper. The distilled fluid is then to be exposed to the air for a month, at the end of which time it is to be put into a matrass with half an ounce of recently precipitated, perfectly pure, hydrated oxide of zinc. This is allowed to digest for from eight to ten hours on a sand bath, heated to 176° Fahrenheit, and stirred occasionally. The warm liquid is filtered, and, after being evaporated to three-fourths of its volume, the residue is poured into porcelain capsules, and exposed to the heat of a stove. The product of this evaporation is half an ounce of valerianate of zinc in pearly crystals, in a state of perfect combination. The rationale of this process agrees with the opinion of M. Souberain, that the essential oil of valerian is converted into valerianic acid by oxidation, and that the acid has no previous existence in valerian root(d). The valerianate of quina may be prepared by a similar process, substituting pure quina for the hydrated oxide of zinc.

The Valerianate of Zinc appears to be a most valuable addition to the materia medica, combining the properties of an antispasmodic and a tonic, and, consequently, being peculiarly adapted for the treatment of neuralgic affections. Devay, who has employed it very extensively, states, that he has found it most useful in the treatment of facial neuralgia and of vertigo. After a fair trial of the remedy in many cases, we can confirm his observations, as also the fact noticed by him that this new chemical combination proves much more beneficial than the oil of valerian and oxide of zinc prescribed together. The high price of the salt unfortunately prevents clinical observations from being made in charitable institutions as to its effects. Valerianate of zinc is very readily decomposed, most acids setting free the valerianic acid, and combining with oxide of

(c) Bouchardat's *Annuaire*, 1846.

(d) *Journal de Pharmacie*, February, 1846.

zinc. It also undergoes partial decomposition if exposed to the air, or even if kept in badly-stoppered bottles, when it emits a strong valerian odour—the perfect salt having but a very feeble odour, and being not completely soluble in water. The best characteristics of its purity are, its being in brilliant, pearly, tabular crystals of a snowy whiteness; its neutrality to litmus paper; its complete solubility in water, and its possessing but a very feeble odour of valerian. The dose of it is from three-fourths of a grain to one grain twice or three times a-day; it may be prescribed in the form of pill made with a little mucilage, or conserve of red roses; or in solution in orange-flower water, or in distilled water flavoured with syrup of orange-flowers. The compounder must bear in mind that the crystals of valerianate of zinc do not dissolve readily in cold water, floating on the surface in consequence of their lightness; they should, therefore, be first incorporated with a few drops of water in a mortar.

The Valerianate of Quina may be prescribed in the same doses as the valerianate of zinc; it is more permanent in composition than that salt, and is equally soluble in water. It appears superior as an antiperiodic to disulphate of quina, in consequence of its neurosthenic properties; it is also given in much smaller doses, from six to ten grains being ordinarily sufficient to administer in the interval between the fits.

REPORT

ON THE DISEASES OF INFANTS AND CHILDREN.

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(Chiefly extracted from the *Foreign Periodicals*.)

CONGENITAL MALFORMATIONS.

Imperforate Anus; Perineal Operation.—Surgeons of eminence, amongst them Blandin, have been of opinion that incontinence of fæces must be the inevitable result of an artificial anus established in the perinæum or coccygeal region, *not* in connexion with the sphincter ani. The inaccuracy of this opinion is proved by the case of a patient operated on some years ago by Amussat of Paris. This patient has been under the observation of Sir P. Crampton up to the present period, and he states that no such infirmity exists.

To Sir P. Crampton the Profession is also indebted for the notice of a case in which the rectum was closed by a fibro-cartilaginous septum, about one inch and a half from its termination, and in which the result of the division of this septum was equally successful with the preceding.

Lumbar Operation.—Dupuytren, Velpeau, and others, maintain

that it is difficult, if not impossible, to cut into the colon in children in consequence of the narrowness of the fold of peritoneum forming, as it does, a species of mesocolon, attaching the intestines to the loins; yet Amussat maintains that it is easier to perform this operation in children than in adults. At a private meeting at his own house in October last, this distinguished surgeon exhibited a boy, æt. $3\frac{1}{2}$ years, on whom he had performed the lumbar operation on the left side for imperforate anus, on the second day after birth, without opening the peritoneum. The boy, in every respect healthy and well-developed, was very gay and continually singing; but the circumstance most remarkable about him was, that he was able to retain perfectly, not only the fæces, but intestinal gases also. He occasionally suffers from obstinate constipation, being sometimes eight or ten days without a stool, yet is not inconvenienced by this, which is regarded as a favourable occurrence. To assist in retaining the fæces or gases, a stopper made of an elastic substance is kept in the artificial anus, and is secured by a bandage; in the centre of the stopper is a small aperture for allowing exit to the gas. Immediately after the birth of this child, Larrey and others made many ineffectual attempts to give exit to the meconium by means of an artificial opening made near to, or through, the natural, yet imperforate, anus. Even Amussat himself had made the attempt, but having found it impracticable to make an opening inferiorly, he immediately decided upon forming an artificial anus in the left lumbar region.

Quite contrary to the general impression, says M. Amussat, there is in children, behind the colon, in the left lumbar region, a space filled with cellular tissue, which allows of the intestine being opened between the two laminae of the peritoneum; this space is so much the larger the more distended the intestine is, and this is peculiarly the case in children born with the rectum terminating in a *cul de sac*. In the space mentioned there is then neither mesentery nor mesocolon.

Callisen proposed a longitudinal incision, but Amussat prefers a transverse one, into the intestine. His method of performing the operation will be found admirably described in the *Dublin Medical Journal*, vol. xxvi. p. 343. One of the great difficulties attending it is the liability to mistake the small for the large intestine; to distinguish between the two, M. Amussat has proposed a sign, which, if not absolutely diagnostic, is at least a valuable addition to those already known. This sign (first communicated by Sir P. Crampton) rests on the fact, that the small intestines sustain a motion of alternate ascent and descent, corresponding to expiration and inspiration, in which the lumbar colon, which is fixed, does not participate; if, therefore, the exposed intestine present this oscillation it is small intestine, if not, it is presumed to be the colon(e).

When about to undertake this or any other operation for imperforate anus, it should not be forgotten that the colon, as well as the rectum, may be congenitally deficient, as in a case recorded by Dr.

(e) *Medical Press, Journal für Kinderkrankheiten*, Decemb. 1845.

Lehmann(*f*); in this a puncture an inch deep was made in the usual site of the anus, and was kept open with charpie; the following day a trochar was introduced to the depth of two inches, no fæces came away, and the child died: next day, the seventh from birth, on opening the body, the colon and rectum were found altogether absent; the ileum went to the place where the colon should have commenced, and there terminated in a blind sac filled with meconium. The artificial opening had entered the abdomen.

Hare Lip.—The communication of M. Paul Dubois to the Academy of Medicine in Paris (see Dublin Medical Journal, vol. xxviii., p. 283), has drawn much attention to the question of the propriety of operating for this deformity shortly after birth. Guersant, Junior(*g*), agrees with Dubois in thinking that the best time for the operation is immediately after birth; and that if this favourable opportunity be allowed to pass by, it is best to wait till the eighth, tenth, or twelfth year.

He differs in opinion from Dubois as to the propriety of allowing the little patients to suck immediately after the operation; he thinks that during the first two days they should have nothing but a few drops of sugared water and milk put into their mouth, which will afford quite sufficient nourishment to a new-born infant.

Malgaigne(*h*) has operated, nine hours after birth, on a child with simple hare-lip complicated with a wide fissure of the palate and of the alveolar process. The operation succeeded perfectly, but the child died on the sixteenth day from diarrhoea and aphthæ. The cicatrix was found to be admirable, and the separation of the bones was so much lessened that, had death not occurred, the fissure would undoubtedly have been quite obliterated.

Encouraged by the success of M. Dubois, M. Baudon(*i*) has operated, and with success, on an infant aged four days, born with double hare-lip and fissure of the palate. He operated first on the right, and at the end of a fortnight on the left side, following exactly the method prescribed by Dubois as to the daily reapplication of the ligatures, and the removal of the needles.

Mestenhauser(*j*), of Raaste, in Silesia, during a practice of thirty-two years, has operated for hare lip eighty times, and prefers the children to be at least ten or twelve weeks old before it is undertaken; but he gives no reason why they should be of that age, which indeed is the same as that considered as most eligible by the late Dr. Houston, whose paper in the Dublin Medical Journal, vol. xxi., may be referred to with advantage. Dieffendbach(*k*) has operated upon a *thousand* cases, and says that while union has taken place at every age, from a few

(*f*) *Medicinisches Verein: Zeitung*—Ranking's Abstract, Feb. 1846.

(*g*) *Journal für Kinderkrankheiten*, Oktober, 1845.

(*h*) *Ibid*, Nov., 1845.

(*i*) *Bulletin de l'Académie Royale de Méd.* 15 Januar, 1846.

(*j*) *Journal für Kinderkrankheiten*, Dez. 1845.

Med. Rev., April, 1844.

(*k*) *Die Operative Chirurgie*; Von J. F. Dieffendbach. Brit. & For.

days after birth up to extreme old age, it is better to wait until dentition is accomplished, as, when performed very early, the cicatrix is apt to yield as growth advances. He prefers the scissors to the scalpel for paring the edges, and, like Dubois, uses fine needles; instead of waxed silk, often employed, he uses thick soft cotton thread, as he says the former frequently causes the needles to break through the skin, and leave ugly cicatrices, like pock-marks, upon the lip.

DISEASES OF THE BRAIN AND NERVOUS SYSTEM.

Hypertrophy of the Brain.—It is only when the intellect or the motory powers of fine-looking children exhibit symptoms of derangement, that we may, in the absence of other appreciable cause, suspect the existence of partial hypertrophy. This is found in connexion with an unyielding, but normally-sized, skull; the cranial bones are very compact; the sutures and fontanelles are ossified early; the occipital protuberance is prominent; the whole body is thick-set and strong; while, the intellectual activity being feeble, there is often stupidity or fatuity.

General Hypertrophy of the brain may be thus distinguished from chronic hydrocephalus:—In hypertrophy, the posterior part of the skull is the first to become prominent; in hydrocephalus, the forehead. The fontanelles are widened more in the latter. In hypertrophy the children lie horizontally, or throw the head backwards, whilst in hydrocephalus they lie in general on the belly, with the head low. In the latter the face is aged looking and emaciated; in the former it is puffed, and the eyes are without expression and staring. The constitutional symptoms of hypertrophy are slow in shewing themselves, and even then are indistinct; whilst peevishness, startings, sleeplessness, and vomiting, are present at an early stage in hydrocephalus. Children with the latter affection are lean, those with hypertrophy are fat, or leucophlegmatic; the last are of a rachitic, the former of a lymphatic habit. Convulsions, stupor, and restlessness, attend the early stages of chronic hydrocephalus, whilst spasmodic affections, seldom found in the latter until an advanced stage, are among the earliest indications of hypertrophy of the brain(1).

A new and important Sign of Meningitis.—For more than two years past, Trousseau, at his clinique in the Hôpital Necker, has been in the habit of drawing attention to a new sign of meningitis. This sign, which we give not only on Trousseau's authority, but after having convinced ourselves of its reality, consists in *the possibility of producing a lively redness of the skin by very slight friction*. M. Trousseau shewed his class, that in a case of meningitis it was only necessary to pass the finger slightly once or twice over a part of the skin, in order to produce in the spot a circumscribed and almost erythematous redness. This phenomenon exhibits itself many days before

(1) *Mauthner in Zeitschrift der K. K. Gesellschaft der Aertzte zu Wien.* Januar, 1846.

death, and, in a practical point of view, is of great importance, for it is present even when the symptoms of meningitis are not so manifest as to make the nature of the disease evident to any one.

There is no part in which this redness may not be produced; it is best exhibited in the face. It does not depend on the state of fever, for children with strongly-marked febrile symptoms did not present this phenomenon. It is plain that this sign is of the greatest importance in a practical point of view, for it is easily ascertained; and Trousseau has found it constant in every case of meningitis which has come before him for some time past. The cause of this phenomenon has not yet been explained. It must be studied further for the purpose of knowing whether it is exhibited in all cases of meningitis, and whether it makes its appearance at certain stages only, or is present from the commencement(*m*).

DISEASES OF THE RESPIRATORY ORGANS.

Pneumonia.—One of the most important contributions that has been of late made to our knowledge of infantile disease, is the essay of MM. Bailly and Legendre, on what is usually termed *lobular pneumonia*.¹ They attack the generally received opinion of the inflammatory nature of this condition, which they regard as analogous to the state described by Jorg as *atelectasis pulmonum*. They conceive that this, which they call the "*fœtal state*," is not invariably congenital, but that it may supervene afterwards under certain circumstances. The following conclusions embody the most important results of their researches:—1. In the bodies of children who have been rachitic, weakly, or exhausted by previous diseases, a number of lobules of the lungs are found in a peculiar state of condensation, similar to that of the fœtal lung. 2. This fœtal state, which consists in occlusion of the vesicles, may result from the mere contractility of the tissue, or may depend on congestion of the vesicular network extending to the vesicles. The former is the simple, the latter the congestive form of this affection. The congestive form is usually met with along the posterior border of the lungs, and generally accompanies the catarrhal inflammation of the pulmonary vesicles. 3. In either of these forms of the fœtal state, insufflation reproduces more or less completely the natural condition of the lobules. 4. Though occasionally met with, unassociated with inflammation, yet, in by far the majority of cases, this condition becomes developed under the influence of catarrh and catarrhal pneumonia. 5. When unattended with catarrh, and involving only isolated lobules, this condition cannot be detected until after death; but in the new-born infant, it usually affects the lobar form, is attended by the physical sign of deficient respiration, and associated with the absence of all signs of constitutional reaction. 6. It is essentially different from hepatization; is produced by causes which interfere with the free performance of respiration, and is to be treated by reme-

(*m*) *Journal für Kinderkrankheiten*, Januar, 1846,

dies the reverse of antiphlogistic. 7. Lobular pneumonia has, strictly speaking, no existence, since the action of inflammation is never confined to a single lobule, as is the case with the fœtal state of the lung. *Partial* pneumonia would, therefore, be a fitter term. 8. Insufflation does not modify the patches of true hepatization, while the bronchi leading to such hepatized lobules, are exempt from catarrh, two characters which distinguish partial pneumonia from the lobular engorgements of catarrhal pneumonia. 9. Free partial pneumonia is by no means common in children, though when hepatization does occur in children under five years of age, it almost always affects the partial form. The statements, therefore, that have been made with reference to the rarity of lobar pneumonia in infancy are correct; but almost all that has been said about the extreme frequency of lobular pneumonia at that age, must be taken as referring to the fœtal state of the lung. 10. Catarrhal pneumonia consists in the extension of the catarrhal inflammation from the bronchi to the pulmonary vesicles. This inflammation may effect healthy lobules, or those in the fœtal state. In the latter case it gives rise to appearances which have led to the supposition that those lobules were the seat of a parenchymatous inflammation. 11. Capillary bronchitis and generalized lobular pneumonia are but two forms of catarrhal pneumonia, which differ according as in the one the catarrhal element, or as in the other the lobular congestion predominates. 12. These facts explain why depletion was seldom appropriate in the treatment of what was called lobular pneumonia. Simple as the process was by which these results were obtained, no one had previously employed insufflation as a means of ascertaining the real nature of lobular pneumonia and carnification of the lung in children. Dr. West has repeated the experiments of Bailly and Legendre on many occasions, and can fully substantiate the correctness of their statements. An assertion has been made by M. Bouchut, that even true hepatization may be removed by insufflation; in this, however, he is decidedly wrong. The hepatized portion may sometimes be made to assume a brighter colour, but not to resume the texture of the healthy lung, as is the case with lungs in the fœtal state. Dr. Posner, in some remarks on the treatment of pneumonia in children, observes, that the strictly antiphlogistic treatment, suitable to the inflammatory affections of the adult, is no longer appropriate in early life. He applies these observations especially to pneumonia, in the course of which an adynamic stage comes on, requiring the discontinuance of other remedies, and the use of wine and stimulants, such as polygala senega and ammonia⁽ⁿ⁾.

Dr. Behrend, of Berlin, has noticed^(o) a *nocturnal periodic cough* in children, which has not heretofore been described. This cough is most prevalent in spring and winter, but is often met with in autumn, rarely in summer. Infants at the breast are, perhaps, not liable to it;

(n) *Archives Gén. de Méd., Brit. and For. Med. Rev.*, Oct. 1845.

(o) *Journ. für Kinderkrankheiten.* Decemb., 1845.

with this exception, it affects children of all ages, and boys more than girls. Children without any cough, or the slightest trace of catarrh during the day, fall asleep tranquilly at the usual hour in the evening; but after two or three hours' rest they become restless, and awake during a violent fit of coughing; they cry, and the cough becomes more and more severe, so as sometimes to induce vomiting. After being thus harassed for one, two, or three hours, they again fall asleep, and pass the rest of the night well. The cough returns at the same hour the succeeding night, and persisting sometimes during weeks or months, it ends by diminishing and disappearing completely and spontaneously. The fits become by degrees shorter, and appear at a later period of the night, so that the sleep preceeding them is always gaining in duration. The children are pallid; they appear fatigued; and they have cold feet in the evening; though they play, drink, and eat, and in other respects seem in good health, yet they are not so fresh and lively as when nothing ails them. This nocturnal cough is often catarrhal, and frequently accompanied by mucous rale; but it is sometimes dry, croupy, and sonorous. The cough occasionally consists of a single, short, uniform effort, which is repeated every five minutes, or in one or two longer fits of coughing, which put an end to it for the night.

The author considers this cough as the result of an affection of the nerves, probably of the *par vagum*. He has formed this opinion principally from the nature of the symptoms, and partly from the circumstance of its being observed frequently to follow upon epidemics of whooping-cough, and to be common during the prevalence of intermittent fevers amongst adults. This cough is not of a serious nature, as all the cases he observed terminated favourably.

Dr. Braniss (*p*), during a practice of fifteen years, has often observed in children a cough having many of the characters of the above. Instead, however, of looking on it as a distinct species, he considers it a mere accidental occurrence; thus, the heat of the bed relieving the chill attendant on catarrh, the irritation which produces cough is not sufficient to destroy the soundness of the first sleep. The children cough in their sleep, and the loosened mucus not being ejected, collects in the back of the throat, where, irritating the larynx, it gives rise to a violent fit of coughing, which continues until the irritation subsides.

DISEASES OF THE DIGESTIVE ORGANS.

Pure Muriatic Acid in the Treatment of Aphthæ.—Dr. Coudray reports (*q*) several cases of aphthæ, in which the topical application of pure muriatic acid was followed by complete success. In many cases, when the exudation did not occur in thick laminae, and when it occupied the tongue and lips only partially, it sufficed to use the acid diluted by an equal proportion of water, or two parts of the latter to one of the former. But, whenever the pseudo-membranous material was thick,

(*p*) *Journ. für Kinderkrankheiten*, Januar, 1846.

(*q*) *Bullet. de Thérap. : Journal de Médecine*, Février, 1846.

resisting, and yellowish, and the child refused the breast, he had recourse to the pure acid, one or two applications of which caused the separation of the false membranes. Its use, he states, is attended with very little pain, and infants who had been unable to take the breast for several days before, became capable of sucking in a few hours afterwards.

Bretonneau, many years ago, extolled the use of muriatic acid in this form of stomatitis; and again, last year, Trousseau and Delpech called attention to the great efficacy of the *fuming* acid as one of the most powerful modifying remedies in severe aphthæ. Dr. Coudray, therefore, proposes nothing new. His cases, it may be also mentioned, belong to the symptomatic species, which supervenes generally in cachectic children, in whom the cure of the stomatitis itself is of much less importance than when it is idiopathic. In the latter instance, it is usually mild, except when epidemic, in which case the most energetic local treatment is of little avail.

Diarrhœa.—Professor Romberg, of Berlin, is fond of using nitrate of silver in both acute and chronic diarrhœa in children, according to the following formula:

R Crystallized nitrate of silver, 25 to 50 milligrammes.

Distilled water, q. s. for solution. Then add:

Mucilage of salep, 75 grammes.

Syrup of poppies, 15 do.

From a tea to a table-spoonful to be given four times a day(r).

M. Weisse, physician to the children's hospital in St. Petersburg, proposes a novel remedy for the cases of diarrhœa, with emaciation, coming on after weaning. If it be not possible to procure for the children a good nurse, he advises the use of a remedy which, he says, has often succeeded in his hands, namely, '*raw beef*' finely shred, of which they should take two table-spoonfuls, divided into four parts, in the course of the twenty-four hours. The quantity is increased, daily, until finally they are left to eat it at discretion. He states, what is hardly credible, that in general this food is taken with great pleasure, and it is only on the first few occasions that there is any hesitation shewn. This is easily overcome by a little management. In case of absolute refusal, small balls made of it are introduced into the mouth; or it is mixed, very finely minced, with the drink.

Cooked substances are, as a general and well-established rule, more easy of digestion than those which have not been submitted to the action of fire, so that this remedy of Dr. Weisse is opposed to the most vulgar principles of science. However, there is no rule without its exception: and we must admit that of all the functions that of digestion presents, in its accomplishment, the most frequent anomalies; so that we would not be at all surprised to see a child, whose stomach could not bear

(r) *Gazette Médicale de Paris.* 10 Janvier, 1846.

lighter nourishment, much benefited by animal substances, or even by the raw flesh recommended by Weisse. We are well aware that, under certain circumstance, milk should not be boiled, and that some persons prefer using raw eggs, potatoes, and even meat which is little better than raw. All this is matter of observation; but the remark is only referable to certain individuals, and it is not proper to convert into a general rule that which is only the result of an exception, and that a very limited one(s).

The green Evacuations of Children, like many other subjects of common occurrence, have attracted little attention further than being considered as an evidence of the irritating effects of mercury upon the liver and intestinal canal, when this medicine has been exhibited. Dr. Bird having lately made a careful chemical examination of these evacuations, has established it, as a fact, that the green colour is not owing to discoloration by bile, as he failed to detect more than the ordinary quantity of this fluid in very marked specimens of the "spinach-coloured" stools. He is disposed to regard the colour as depending on the presence of modified blood.

Believing that the green stools alluded to are but a form of melæna, Dr. Bird has often closely questioned the nurses of children voiding them, regarding the appearance of the evacuations before and after the development of the green colour, and has been almost constantly told that streaks, or even clots, of blood had been observed.

He regards, then, the presence of green stools as indicative, not of a copious secretion of bile, but of a congested state of the portal system, in which blood is exuded very slowly and in small quantities, so as to allow of the colour being affected by the gases, and secretions, present in the intestines; a state of things capable of readily ending in melæna, in which the effusion of blood is so copious and sudden, as not to give time for the occurrence of the changes alluded to.

There is, moreover, a peculiarity in the green dejections of children and others whose portal circulation is congested, which, so far as he knows, is quite distinct from any property presented by mere bile under similar circumstances. When first voided, the "chopped spinach" stools are, in the majority of cases, of a bright orange colour, and they assume their characteristic grass-green hue only after exposure to air. The time required for this change varies remarkably. He has seen an orange-coloured stool become green in a few minutes; and in the same patient, only a day or two afterwards, many hours have been required to effect the same change(t).

Dr. Sobotka, of Vienna, has drawn attention to *the dangers attending the administration of opium* in diarrhœa and other complaints of children, and gives several cases to shew the great caution which should be observed in ordering it. Dr. Beck's advice is very judicious, viz., to use tinct. opii camph., laudanum, and Dover's powder, all of which

(s) *Journal de Méd. et de Chir. pratiques.* Oct. 1845.

(t) *Ranking's Abstract*, vol. ii. p. 46.

are unvarying preparations in the treatment of children's diseases, in preference to other opiates, such as syrup of poppies, the strength of which often varies. Dr. Sobotka considers that, in case of narcotism, abstraction of blood, cold applications to the head, and acids do more harm than good, as congestion in such cases is passive rather than active(*u*).

The *Semina Lycopodii Clavati* is a popular remedy in Silesia for diarrhœa. Hufeland recommended it in the painful diarrhœa of children. Behrend has found the following formula of service: R Sem. Lycopodii, ʒ ij.; Aq. Fœnic. ʒ iv.; Gum Arab. simpl. q. s. M. Two teaspoonfuls every hour. For new-born infants, R. Sem. Lycop. Gum Arab. āā ʒ ij.; Syr. Amygd. q. s. M. Opium may be added or not, according to necessity. Lycopodium is also given in lavements, combined with white of egg. The lycopodium of commerce is often adulterated with the pollen of various kinds of trees, yellowish powders, chalk, sulphur, and the dust of worm-eaten or rotten wood(*v*).

Atrophia Mesenterica.—Dr. Zettwach extols the early use of a mixture of milk and broth (first recommended by Bretonneau) for atrophia in children. Spoon-fed children should have, during the first months, nothing but a mixture of equal parts of cow's milk and weak fennel tea, and afterwards a mixture of milk and veal-broth. In case of necessity the milk may be beaten up with the yolk of an egg, instead of the broth(*w*).

Polypus Recti.—Dr. Hauser, of Olmütz(*x*), has detailed a case of polypus of the rectum, which, he says, is a rare disease, and one almost exclusively confined to children under six years of age.

A fine little girl, æt. 6 years, had been for some weeks liable to attacks of diarrhœa, and latterly was affected with tenesmus, accompanied with the passage of much mucus, tinged with blood. Various remedies had been used to no purpose, before she was brought to Dr. Hauser, who found there was a small, pediculated, moveable tumour attached to the left wall of the rectum. This tumour generally descended when the patient was at stool. Having procured its descent by an enema, he was able to see that it was of a reddish colour, somewhat uneven, fleshy, about the size of a bean, and with a very narrow pedicle. Dr. Hauser having applied a ligature to its neck, at once cut away the polypus, fastening the ligature over the sacrum by means of sticking-plaster. At the end of a week the patient was perfectly free from every complaint. She suffered no inconvenience from the operation, except some slight pain, at first, when the bowels were being moved.

In confirmation of Dr. Hauser's remark, as to the rarity of polypus recti in children, it may be observed that, during the last five years, we have witnessed no more than two cases of it at the Institution for Diseases of Children. Our practice differs from Dr. Hauser's in that we prefer

(*u*) *Journ. für Kinderkrankheiten*, Des. 1845.

(*v*) *Ibid.*

(*w*) *Rust's Magazin für die Gesamnte Heilkunde*. Bd. liv. 2s. Heft.

(*x*) *Zeitschrift der K. K. Gesellschaft der Aertzte zu Wien*. Sept. 1845.

allowing the polypus to drop off of itself after the application of the ligature, which we are in the habit of cutting short, instead of fastening externally. In the method pursued by him, we would be inclined to fear the probability of the ligature becoming loose, and the danger of subsequent hæmorrhage, while in it we can discover no possible advantage.

FEVERS.

M. Legendre has investigated the very difficult subject of the *simultaneous existence of variola and vaccinia*, of which he has observed ten instances. His conclusions, which are founded on a comparison of fifty-six observations derived from different sources, are to the effect that vaccination almost always modifies the characters of variola, but that the performance of vaccination in a child previously exposed to the contagion of small-pox, seems to favour the appearance of that disease, though in children above four years of age it usually appears in a favourable and greatly modified form. That while vaccination, performed during the incubation of small-pox, modifies the characters of that disease, the vaccine vesicle itself is usually modified in a degree directly proportionate to the shortness of the interval between the performance of vaccination and the appearance of small-pox. When vaccination is performed after the appearance of variola, the vaccine vesicle sometimes runs its course, but does not modify the variola. The practical inference which he deduces is, that in young and weakly children who have been exposed to the contagion of variola, the performance of vaccination only increases their danger, and is, therefore, to be avoided(y).

M. Tardieu has given(z) a case which, with others, he thinks goes to prove that vaccination may modify variola, not only when performed during the primary fever of the latter, but even at the commencement of the variolar eruption. The method of vaccination resorted to was that introduced by Eichorn, consisting in making twelve or fifteen punctures in each arm. Still, for us, the problem of the modification of variola by vaccinia is not yet resolved. MM. Rayer and Bousquet (the latter the most practised vaccinator in France) entertain an opinion diametrically opposed to that of M. Tardieu.

Varicella.—M. A. Delpech has given(a) an interesting history of an epidemic of varicella, which prevailed in Trousseau's wards during the early months of the year 1844. The epidemic was extremely mild, scarcely requiring any treatment, but, towards its close, the eruption, which previously (with few exceptions) exhibited nothing remarkable, became singularly modified. The bullæ, in place of preserving their ordinary size, enlarged considerably; some of them assumed the appearance of pemphigus, and left behind large suppurating surfaces. This peculiarity, hitherto unobserved, M. Delpech seems inclined to attribute

(y) *Archives Gén. ; Brit. and For. Med. Rev.*, Oct. 1845.

(z) *Journal de Médecine et de Chir. pratiques*, Janvier, 1846.

(a) *Journal de Médecine*, par Trousseau, Janvier, 1846.

to the influence of individual modification of constitution. Of the identity of this pemphigoid varicella with simple varicella he is convinced, from the sort of indifference with which certain children contracted the one or the other separately, or both together. These pemphigoid bullæ commence just like the simple eruption, but the epidermis in the former case separates with facility, and the bullæ present exactly the same character as that caused by the application of an ammoniacal pomade. The bullæ are tense, transparent, and of a light yellow hue, like that of ordinary varicella; the surrounding skin retains its usual colour. In size the bullæ vary from four or five millimetres to two and a-half centimetres; at the end of twenty-four hours the bulla is generally abraded, leaving the dermis exposed, of a red colour, analogous to that produced by ammonia, or with a greyish surface. When there is a tendency to cutaneous suppuration, it often happens that the bulla continues to extend at its base, so as to assume a more or less irregular outline. Delpech observed no worse consequences from these bullæ than abundant suppuration. The following case fell, at the end of last year, under the notice of the writer of this report. A healthy infant, aged ten months, had been eight days ill with a vesicular eruption on the lower extremities, when placed under the care of his colleague, Doctor McClelland, at the Institution for Diseases of Children. This eruption bore a great resemblance to varicella, of which, at the time, it was considered a modification. The vesicles were scattered over the front of the limbs principally, and in number did not exceed a dozen; some of them had dried into scabs, others were recent; there were two or three small ones filled with clear serum on the trunk or arms; those on the legs were larger (indeed larger than the vesicles of varicella usually are), and one at the upper and anterior part of the thigh was at least the size of a shilling; the cuticle being broken, the skin underneath was exposed, of a deep red colour, with a central spot of mortification. The day following the cuticle had peeled off a large portion of the surrounding surface, and the mortified part was also more extended. There was much tumefaction of the thigh and irritative fever. After death, which occurred at the end of a fortnight from the commencement of the illness, it was found that the mortification had spread from the thigh to the labia pudenda, and that it had run up the abdomen, destroying a stripe of the integuments on both sides within the cristæ ilii. The vesicles which had dried up had been also attacked by the mortification; there was nowhere any commencement of separation of the sphacelated parts(b).

Scarlatina; Abscess of the Neck; Fatal Hæmorrhage.—Dr. de Bal, of Sweweghem, has given a case of this kind. A girl, aged 12 years, was affected with swelling of the neck, most marked at the left side, the consequence of scarlatina which had run its course favourably. An indistinct sense of fluctuation being perceptible, the abscess was opened by the lancet, which gave exit to a large quantity of pus and

(b) Vid. Dublin Hospital Gazette, March 13th, 1846.

serum. On the seventh day afterwards, when everything seemed to progress favourably, there took place a copious hæmorrhage from the abscess. The patient having fainted, the bleeding ceased; but this returned in the evening, and was succeeded by almost immediate death. On examination, the tumour appeared to be the size of a man's closed hand, and, being cut into, it was found that the suppuration had destroyed a part of the internal jugular vein, to the extent of a finger's breadth(c). The observations appended to this case (namely, that as there was no gangrene present, the destruction of the vein is to be accounted for by the peculiar corrosive properties of the pus), are in contradiction to the fact, that these abscesses have a great tendency to assume a gangrenous action. It more frequently happens that the large vessels do not open into these abscesses of the neck until several days after the spontaneous, or artificial, opening of the latter. Dr. Adams of Glasgow, however, has reported(d) the case of a female child, aged 16 months, in whom there remained, after scarlatina, an inflammatory tumefaction situated behind, and a little beneath the angle of the jaw on the right side. No fluctuation was perceptible, and poultices were kept applied, when suddenly the child discharged, from the mouth, pus and blood to the amount of sixteen ounces. Death ensued. It was not discovered whether the hæmorrhage proceeded from an artery or vein.

Dr. Hughes has just communicated to the Surgical Society the very interesting particulars of the case of a child six years of age, in which he tied the internal carotid artery to arrest arterial hæmorrhage from an abscess of the neck succeeding scarlatina. The abscess had been opened ten days before the hæmorrhage occurred, and the ligature of the artery succeeded perfectly in arresting the hæmorrhage, which did not again return, but the child sank at the end of the fifth day after this operation.

Of hæmorrhage succeeding abscess of the neck in children who have been debilitated by other causes as well as scarlatina, Dr. King has given an instance, in the London and Edinburgh Monthly Journal; and the following case was lately under the care of Dr. Carteaux(e). A child aged twenty months, remained, after measles, affected with dyspnoea, cough, and enlargement of the tonsils, and there was, in addition, an abscess, the size of a pigeon's egg, behind and beneath the angle of the jaw, on the right side. This was opened, and in four days more a second one on the left side. In two days afterwards there occurred a copious hæmorrhage from the first opening. The little patient soon sank.

URINARY DISEASES.

Nocturnal Incontinence of Urine.—There is no infirmity, the treatment of which is so much influenced by individual peculiarities of constitution as this is. In some cases tonics succeed, while in others, presenting

(c) *Journal des Connaissances Méd. Chir.*, Octobre, 1845.

(d) *London and Ed. Jour.*, *Journal de Méd.*, par Trousseau, Oct. 1845.

(e) *Journal de Méd. et de Chir. Prat.*, Octobre, 1845.

to all appearance quite similar conditions, it is necessary to have recourse to stimulants of the muscular fibre, such as the ergot of rye, and nux vomica; blistering in the latter, cold bathing in the former. Finally, there is a class of cases (which cannot *a priori* be distinguished from others), in which the incontinence can be properly treated only by medicines which appear to act specially upon the bladder, and, what is very remarkable, amongst these agents some are evidently sedative, others diuretic, &c. This would induce us to believe that incontinence, though regarded generally as a sign of debility of the bladder, consists sometimes, and this more frequently than is commonly imagined, in an excessive degree of nervous and muscular susceptibility of this reservoir. Success has more than once followed the use of sedatives, camphor, digitalis, nitrate potash, benzoic acid, &c., where tonics and stimulants, which at first appeared to be rationally indicated, have failed(*f*).

Dr. Morand has long been in the habit of using belladonna, internally, in the nocturnal incontinence of urine in children, and with very satisfactory results. It is, however, in the incontinence from debility, only, that this remedy is of use. Its mode of action he is not able to explain; he gives it in increasing doses, which must be continued sometimes for two, three, or four months in succession; and administers it in pills containing each one centigramme ($\frac{2}{5}$ of a grain) of the extract, beginning with one pill, night and morning, for children between four and six years of age. If no effect be produced at the end of a week, he orders a third pill daily at noon; and, after fourteen days, a fourth, if necessary. With children between eight and fifteen years he begins with three pills, increasing the number as above. If signs of narcotism supervene, the medicine must of course be for a time suspended(*g*).

Dr. Berenguier has observed that in his neighbourhood, in the department of Tarn, incontinence of urine is often caused by an obstinate, intractable form of intermittent fever. The children brought to him for treatment were aged between seven and fourteen years. They were anæmic and debilitated. The remedies he found most successful were copaiba, laudanum, and protoxide of iron, made into pills, in the proportion of three parts by weight of the former to six of the latter. Of this mass one pill, weighing from two to three grains, was taken at each meal; and after two or three days an additional one, until the patient came to take ten daily. He found, with Trousseau, that iron, particularly in the case of children, deranges the stomach less when taken after than before meals. Along with these *pilulæ balsamicæ*, an infusion of the *Folia Juglandis* was ordered as a common drink(*h*).

Lithotomy; Bilateral Operation.—Guersant exhibited, at the *Société Médico-Pratique* of Paris, an interesting preparation, shewing the parts, divided in the *sectio bilateralis*, in their natural progress

(*f*) *Journal de Médecine*, par Trousseau, Novembre, 1845.

(*g*) *Journal für Kinderkrankheiten*, December, 1845.

(*h*) *Ibid.*

towards cicatrization. A boy, six years old, died forty-five days after the operation, in consequence of measles complicated with double pneumonia. He made water freely by the urethra on the fifteenth day. The wound was closed externally; internally there was a small fistulous opening. The preparation was interesting, as it shewed that the prostate was only *grazed* by the incision, and that the verumontanum and ductus ejaculatorii were uninjured. This confirms the observation of Dupuytren, namely, that when the ejaculatory ducts are wounded in this operation, it can only happen by accident, or by the sheer awkwardness of the operator. Guersant does not absolutely reject lithotripsy in children, but gives the preference to the bilateral operation because of the great success he has obtained from it. Of twenty-four cases thus operated on, he has lost but four. It is only when the stone is small that he has recourse to lithotripsy, for then one sitting is all that is necessary to rid the patient of it. If many sittings be required, the young patients become exhausted, and so are brought into greater danger than if they had been cut. In one case the stone was too large for extraction, and he was obliged to enlarge the wound upwards. He wounded the rectum once, but no bad consequences resulted, it healed quickly and effectually(*i*).

SCROFULA.

Bons-bons of Iodine and Coffee for scrofulous Children.—In the Piedmontese Pharmacopœia is to be found the following prescription :

Hydriodate of potash, 4 parts; finely ground roasted Mocha coffee, 2 parts; powdered sugar, 122 parts; mucilage of gum tragacanth and powdered coffee, of each as much as may be sufficient to make 300 lozenges.

Each of these lozenges, which are very agreeable to the taste, contains about one-fourth of a grain of iodide of potash(*j*).

Chloride of Silver in Scrofula.—Dr. Sicard announces, in the Clinique de Marseilles, that he has during many years observed the best results from the use of chloride of silver in scrofula.

He gives, *internally*, pastilles formed of chloride of silver and chocolate, twelve of which contain five centigrammes of the former (i. e. about one grain); one pastille is taken half an hour after each meal. The dose can be so far increased that ten, and finally only eight, pastilles contain one grain of the chloride.

With these he combines frictions, externally, with an ointment composed of five grains of the chloride to the ounce of lard(*k*).

Scrofulous Photophobia.—Dr. Seidel, of Breslaw, has been long in the habit of using the following prescription in this affection with success :

R. Extracti Cicutæ recens parati
Sacchari albi āā partes duas.

(*i*) *Journal für Kinderkrankheiten*, October, 1845.

(*j*) *Ibid.* November, 1845.

(*k*) *Ibid.* December, 1845.

Constitit exaetissime adde sub trituratione continuata guttatim aq. destillat. partes quindecim.—M in vitro bene clauso.

Of this solution, from four to ten drops, according to the age of the patient, are given daily, in any suitable vehicle. So much as twenty-five drops can be given to adults. Dr. Seidel has never observed symptoms of narcotism to follow the use of this remedy (*l*).

Dr. Morand (*m*) recommends the cauterization, by solid nitrate of silver, of the mucous membrane of the nose in scrofulous ophthalmia, as an inflammatory state of that membrane is, he says, always in such case present, and is often, in fact, the source of the ophthalmic inflammation.

MEDICAL MISCELLANY.

A Case of Re-vaccination followed by untoward Symptoms. By HENRY KENNEDY, M. B., Dublin.—At the present period, when not only the public, but even the Profession, are in some degree of doubt as to how far re-vaccination should be adopted generally, the following case may not be considered void of interest. It will shew that an operation trifling in itself, is capable of being followed by symptoms of a very alarming character; and that therefore it ought not to be indiscriminately adopted; or spoken of as one entirely free from risk. A lady between twenty and thirty years of age, to all appearance in very good health, was vaccinated on Friday, the 23rd of January, of this year. The operation was performed in the usual way on the arm; close to a well-marked cicatrix of a previous vaccination. The lymph had been obtained about half an hour previously, from my friend, Dr. Jonathan Labatt.

On Monday (third day), there was some slight evidence of the vaccine having taken; the arm round the vaccinated part presented a trifling degree of redness; there was a feeling of stiffness, and some pain in the axilla.

Fourth day. The patient came down to breakfast, but could not eat. She was looking ill, and described herself as feeling very uncomfortable. The arm had scarcely altered from the previous day. About noon she was seized with a well-marked rigor, during which her teeth chattered. This was soon followed by a severe pain in the back, which seemed to affect the breathing a good deal, for it became very short, and the expiration, more particularly, seemed to be a work of considerable labour. With this there shortly came on the most distressing restlessness; every posture being tried with the hope of affording relief. She was directed some mild aperient medicine, and to bathe her feet at bed-time.

Fifth day. Passed a tolerable night; sleep somewhat broken. Some slight increase of redness round the vaccinated part, and also an appearance of vesicles forming. No symptom whatever of fever;

(*l*) *Journal für Kinderkrankheiten*, December, 1845.

(*m*) *Ibid*, October, 1845.

but there was a sense of sinking, particularly if any attempt was made to move. The pulse indicated this state, for it was feeble; though in frequency not at all increased above the natural standard. She was ordered a little wine and water, with small doses of sulphate of quinine.

Sixth day. Had a good night; and feels stronger to day. Pulse a shade stronger. No fever. Some appetite. The arm has advanced still more, there being now distinct vesicles, with a slight surrounding redness. The treatment of yesterday was continued.

Seventh day. Still more improved; and feels more herself than she has done for a few days past. Eat with a relish, and lay on the sofa in the evening. The arm now presented the appearance exactly that it would have when vaccination takes its regular course.

Eighth day. Patient did not rest so well last night, though unable to state what disturbed her. On awaking this morning, it was found that a bright red rash covered both arms from the shoulders down; it existed elsewhere in patches, chiefly on the lower limbs, about the knees. In its character it was very like the rash of scarlatina; there was, however, no sore throat, nor symptom of fever. The tongue was clean; the pulse 78, and of moderate strength. The vesicles were fuller than on the previous day, but the surrounding redness was now hidden by the general rash over the arms. In the course of five or six hours this rash had disappeared, so much so that not a trace of it was to be seen.

Ninth day. Passed a restless night. Complains now of pains in several joints, as the knees, shoulders, and wrists; which appear slightly swelled. Spots of redness, the size of a sixpence, appear at times on the arms, hands, and face; but they are remarkably flitting, being visible one moment, and gone the next. On looking at the arm this morning, the fluid in the vesicles was found to have become quite dark; in fact like blood effused into the part. Besides the pains in the joints, the patient complained of a sense of extraordinary weakness, accompanied by sickness of the stomach. Some tea taken early had been at once thrown off. As the day passed on, these two symptoms became very urgent; several fits of weakness of a very alarming kind took place, during which the pulse at the wrist was imperceptible, and the patient's face became deadly pale. With this there was constant nausea, which was much increased when even a mouthful of any fluid was taken, or when any attempt was made to move in the bed. Towards evening the patient vomited several times what had all the characteristics of the "black vomit." Yet with this state there were, except thirst, no symptoms of fever. The tongue was clean; the pulse, accurately counted, did not reach 80, but it was exceedingly feeble; the skin was cool. At this period of the case I had the valuable assistance of Dr. George Kennedy.

Tenth day. Got no sleep through the night, from the violence of the pains, which are now chiefly confined to both arms, reaching from the shoulders to the fingers, and rendering the patient quite unable to move them. Spots of redness still visible, though flitting; and in addition there are large and well-marked *wheals* over several

parts of the surface. The vaccinated part has this day formed a complete slough. Stomach-sickness still most urgent. Several fits of the alarming kind of weakness occurred again this day, nor could the patient be moved without risk of bringing them on. Still there was no fever, except the thirst can be thought symptomatic of it. The treatment adopted consisted in giving wine in very small quantities at a time, alternately with some saturated ammonia mixture. An anodyne was likewise directed at bed-hour. A poultice was applied to the arm.

Eleventh day. Got little if any rest at night, though free from pain for about two hours. This morning the pains in the arms, and also in small of the back, are much complained of. The feeling of nausea continues; but the weak fits have not been so frequent as during the last few days. Some appearance of fur on the tongue was observed this day for the first time. Pulse 78; can be counted at the wrist. In addition to the treatment of yesterday, cold chicken broth was directed—a table-spoonful at a time; and the anodyne at bed-hour.

Twelfth day. Was quiet in the earlier part of the night, but did not sleep. The pains in the arms have diminished in intensity, but seem to have centred themselves in the back, where the patient complains of severe racking pain. The slightest movement increases it much, nor can the patient move herself at all. Tongue more furred than before; it is indented by the teeth; and the breath is unusually heavy. The pulse has risen a few beats, being now nearly 90. The sickness of stomach and tendency to fainting are somewhat better to-day. The vaccinated part now presents exactly the appearance a caustic issue would, which had been poulticed a similar length of time. The back was directed to be well rubbed with an anodyne liniment.

Thirteenth day. Got no sleep, from the severity of the pain in the back, which is now her chief complaint. Happening this day to take more fluid at once than she had been accustomed to do, it was immediately thrown up. Tongue now whitish; pulse 90, a shade stronger. Some spots of eruption are still to be seen at times. Slough beginning to separate. No weak fits for the last twenty-four hours.

Fourteenth day. Tongue more furred, and indented by the teeth; pulse 96, fuller; skin hotter; more fever in every respect. Got great relief from stupor, but pain in the back is still her chief complaint. Some mild aperient medicine was directed. It caused three dejections, of a very black and unhealthy appearance. In the evening of that day the pulse was 120.

Fifteenth day. Passed a better night; has no feeling of nausea; tongue deeply furred, and indented; pulse 104, but stronger. Pain of back lessened; but it has been succeeded by one, referred by the patient to the region of the stomach, which causes great distress. It seems to be connected with the diaphragm, for it has rendered the breathing very short, and is described as stopping any fluid getting into the stomach. Slough separating. The stupor

was directed to the seat of pain, and a cold infusion of bark substituted for the ammonia mixture.

Sixteenth day. Got a little sleep. The chief distress is referred to the region of the stomach. Other symptoms as yesterday.

Seventeenth day. Passed a tolerable night, but was kept awake part of it, by severe shooting pain down the left arm; not the vaccinated one. The breathing somewhat easier this day, as also the pain in the region of the stomach. Tongue beginning to clean at the edges; pulse 100, and strong.

Further details of this case need not be given: the patient suffered for three or four nights subsequently, from severe pains down both arms, for which morphia had still to be given, and with good effect. The symptoms of fever gradually subsided; the pains lessened; the slough came away; and the patient is now (more than two months having elapsed) slowly convalescing. Five or six days after the patient was able to leave her bed, there was a threatening of phlebitis in one of the lower limbs; fortunately it did not go farther than a mere threatening; the limb, however, is even now weaker than its fellow.

In the course of my reading, or in conversation with friends, I have not known of any similar case. It is not uncommon for vaccination to be followed by several forms of eruption, such as varicella, crusta lactea, and the rash known as "the gum." Erysipelas, too, and glandular enlargements, are not of unfrequent occurrence. One fatal case is recorded in the Report of the Cow-pox Institution for the past year, in which death took place from diffuse inflammation. One instance, too, of a different form of disease from that which usually follows vaccination lately came under my notice. A child of three years old was brought to Thomas's Dispensary, labouring under vomiting and bowel complaint. A good deal of blood had passed from the bowels, as, indeed, the child's appearance indicated. I found it had been vaccinated exactly a fortnight previously. On looking at the arm, the skin surrounding the vaccinated parts, for the extent of an inch and a-quarter, was densely covered with spots of purpura. I could not discover any elsewhere over the body. This child recovered. In adults, likewise, I have known a very troublesome crop of boils follow re-vaccination. Still, none of these cases are at all similar to the one which has been detailed. Of its nature I confess myself to be ignorant. The formation of the slough, the great severity of the pains, the vomiting of black matter, the constant nausea, and the very alarming fits of sinking, were enough to shew that the system was profoundly affected, and that but little more was needed to have destroyed life(*o*). It was the constitutional symptoms, in fact, which were in this instance so serious, and not any disease produced on

(*o*) In the valuable "Address" published by Dr. S. B. Labatt in 1841, I find allusion made to several cases where convulsions occurred about the eighth day after vaccination. Some of these cases were fatal.

the skin. The fits of sinking I can compare only to a state somewhat similar which is sometimes induced by the use of mercury, and known as mercurial erythismus.

It was very curious that, during the period of the greatest severity of the symptoms, there did not exist a trace of fever. It appeared as if the constitution wanted strength to form fever; and this view would appear to be borne out by the fact, that as the patient began to shew signs of amendment, in exactly the same degree did fever declare itself, and so continued increasing for several days. The symptoms were such as obviously called for the use of stimulants, and these were used as freely as the state of the stomach allowed of. The anodyne at night seemed to be of essential service. It is more than probable, too, that when the parts round the slough began to discharge, the system was relieved by it; and the poulticing was carried on steadily, with this express object. It should be observed that the slough merely engaged the vaccinated part: and two cases are detailed by Surgeon Osbrey, in a former Number of the Dublin Journal, where large sloughs formed in two children after vaccination, and which were attended by severe constitutional symptoms.

Large Bleedings and Hydriodate of Potash in Croup. By T. PUREFOY, M.D., Cloughjordan.—T. L., a stout, healthy infant, aged fourteen months, was affected with hoarseness and slight feverishness on the 19th of last February, which symptoms being neglected, a severe fit of croup occurred on the night of the 23rd. The croup was treated by bleeding from the arm, which did not produce faintness, emetics, purgatives, and a small blister to the chest. Temporary relief followed upon this treatment, but on the 25th all the urgent symptoms recurred with such severity as to threaten instant suffocation. Upon first visiting the little patient at this date, he was found lying across the nurse's arms; the head thrown back; respiration performed slowly and with great muscular effort; the croupy sound so loud and harsh that it was heard distinctly outside the door of the house; face bloated, and extremities becoming cold; the pulse rapid; but it could not be accurately examined by reason of the child's incessant restlessness. Upon due reflection, it appeared that bleeding the child again appeared to be the remedy most likely to give relief under circumstances of such extreme danger. The arm was quickly bound up, and in a few minutes three more ounces of blood were taken away. The effect was immediate collapse, the child seemed to be dying, the respiration was scarcely audible, and the pulse could not be felt at the wrist. However, by the aid of fresh cool air, heat to the extremities, lowering the head and shoulders, with the occasional use of a little warm spiced wine, these symptoms were so far improved that, in the lapse of an hour, all immediate danger was past.

In the evening three grains of calomel were given, and an emetic mixture of vin. antim. cum vin. ipecac. every second or third hour. On the following morning, the bowels being freely purged, the face

was pale and œdematous; respiration as harsh, but not so loud, as on the day before; pulse rapid and feeble, with considerable prostration of strength. Under these circumstances, it was determined to try the effect of the hyd. potassæ, in doses of a grain every second hour; together with one grain of the hyd. c. creta; and a quarter grain of hippo, to be given during the intervals between each dose of the hydriod. potassæ. A small blister was applied just above the top of the sternum, and light nutriment, as chicken tea, sago, arrow-root seasoned with wine, given at short intervals. This plan of treatment was strictly followed during a week; diarrhœa then came on, which yielded to mild astringents; the symptoms were now decidedly better, so that the same remedies were continued during another week, but with much longer intervals between each dose of medicine. During a fortnight thirty-six grains of hyd. c. creta, and thirty-two grains of hyd. potassæ, were given, and at the end of a month the little invalid had finished a bottle of port wine; at this time recovery was complete, and no untoward symptom has since occurred.

This case proves that, in acute inflammatory disease, when bleeding is employed, this remedy should be persevered in until a decided impression is made upon the symptoms, both local and general; as otherwise, whilst the strength of the patient is reduced, the destructive progress of the disease is not subdued. In the present instance, the first small bleeding was altogether insufficient to restrain the inflammatory action, and, of course, did not produce any decided benefit. We see that even *general bleeding* may be employed with advantage after croup has continued for a *period of nearly a week*. It is not here presumed to advocate such a practice, but rather to shew that the physician should not hastily despair, however hopeless his patient's case may appear.

The combination of iodine and mercury, as used in this case, seemed to have a decidedly beneficial influence in subduing the croupy inflammation; and we believe that the apparently large quantity of wine given was absolutely required to support the vital powers during the operation of the other remedies, as the sudden loss of blood, and the continuance of inflammation, tended to produce extreme debility.

Case of a remarkably small Infant. By Dr. HALPIN, Cavan.—November, 1845. A. G., a healthy woman, aged thirty-four years; has had five children; her youngest now two years old; pregnant, and expected to be confined some time in the early part of the month of January. She laboured under great anxiety of mind for the last four months, and was seized with labour-pains on the 8th instant. On the 10th, after forty-six hours of severe labour, she was delivered of a female child, of so very small a size, that it did not appear to have attained the sixth month, agreeing in this particular with the woman's calculation as to the time she should be confined. Not expecting it could survive more than an hour or so, it was rolled in a piece of fine flannel, and laid

in a warm place. Contrary to all expectation, she survived, sucked vigorously, and was healthy in every respect. The ossification of the bones of the head was very imperfect; the sutures were broad enough to admit of the middle finger being laid between the bones; the fontanelles were of a correspondingly large size; and she has inguinal hernia on the left side. On the 14th, she being then four days old, I weighed her accurately; the actual weight of the child was two pounds thirteen ounces.

Dec. 14,	she being 34 days old,	weighed	3lb. 7oz.
„ 27,	„ 47	„ „	4lb. 4oz.
Jan. 10,	„ 61	„ „	5lb. 4oz.
„ 25,	„ 76	„ „	5lb. 12oz.
March 4,	„ 114	„ „	8lb. 8oz.

It will be perceived that, in the first thirty days, she gained but ten ounces; in the thirteen that followed she gained thirteen ounces, averaging one ounce per diem. About the 1st of January she suffered a good deal from the hernia, and continued ill for four weeks, during which time she acquired only twenty-four ounces additional weight. From the 25th of January to the 4th of March, the period at which I weighed her last, her health had been very good, and during that time (thirty-eight days), she acquired forty-four ounces of additional weight, something more than an ounce in the day. She left this part of the country about the date of my last observation.—*Cavan, April 18th, 1846.*

Case of idiopathic Gastritis. By F. H. ORPEN, M. D., Cove.—Mrs. A., *æt.* 24, was seized, on the evening of the 4th of April, with a severe pain in the pit of the stomach, which she described as of a burning character. None of the usual remedies having afforded relief, it was soon followed by insatiable thirst, and then vomiting ensued, the matter ejected being greenish yellow bile; this continued for two days, when yellow serum alone was thrown up. I saw her on the evening of the 6th, when she complained of intense pain and soreness in the epigastric region, which appeared tumid, and very sensitive on pressure; she had also excessive thirst and constant vomiting, and a short convulsive cough, which, however, she has had for some time past, but was then very distressing from its inducing the vomiting. She looked weak and exhausted, and complained of great prostration of strength, oppression, restlessness, and palpitation of the heart. There was no pain or tenderness of the umbilical or lower abdominal region. Pulse small and feeble; tongue coated with fur, but red at the point and edges; bowels confined; urine scanty; and severe headach.

In order to check the vomiting she was ordered alkaline aromatic draughts, with magnesia, potash liquor, and soda; a sinapism was placed over the epigastrium, an enema administered, and subsequently pills composed of calomel, camphor, hyosciamus, and opium, in small quantities, prescribed.

7th. Continued unrelieved; thirst increasing; and she was with

difficulty persuaded from drinking in quantity; the pain and tenderness of epigastrium increased to such a degree that the slightest weight could not be borne over that region. There was occasional hiccough; great restlessness and agitation; pulse 130, and weak; tongue as before; mouth dry; skin hot and dry; urine scanty; bowels moved once. Considering her too weak for general bleeding, a number of leeches were applied to the epigastrium, to which region warm fomentations and a stimulating linament were applied; she was ordered effervescing draughts with ten drops of laudanum in each every hour, these, however, gave much pain and were instantly ejected. The following mixture was then prescribed:

R Acid. Hydrocyan. m. xvi. Tinct. Hyosciam. ℥iii. Syrup. aurant. Aqua Menth virid. Mucilag. Acaciæ, āā. ℥i. Mist. Camphor. ℥iii. M.

Of this a dessert-spoonful was taken every hour, and the enema repeated.

8th. Vomiting and thirst continued unabated, as also the burning sensation in the mouth; was sure she did not swallow any acrid or poisonous substance; there was great jactitation and complete insomnia; prostration increasing, and she appears losing ground rapidly.

As the case now appeared one of more decided gastritis than when first observed, and as active treatment seemed still indicated, leeches were again applied to the epigastrium: all drinks were interdicted, except iced lemonade in spoonfuls; small pieces of ice were allowed to dissolve in the mouth; a bladder filled with ice was applied to the stomach, and the extremities kept warm.

9th. For the first time she expressed herself relieved; some hours after she had been taking the ice, and that it had been applied externally, the vomiting ceased, and did not afterwards return; the internal exhibition of the ice was continued, but the external application of it was removed; a regular action from the bowels was kept up by means of enemata.

11th. All severe and dangerous symptoms have been removed, and she is progressing towards convalescence. 16th. Well.

This appears to have been a case of pure gastritis, and, notwithstanding what Broussais has said to the contrary, unmixed with any enteritic symptoms. More relief was obtained by the leeching and the exhibition of ice, both internally and externally, than by any other mode of treatment.

New Test for Prussic Acid.—The following new method of testing for hydrocyanic acid is proposed by Mr. Richard Austin, Jun., of this city. The precipitate of cyanide of silver, say half a grain, obtained in the usual manner, is mixed with a small quantity of oxide of iron and carbonate of potash, and the whole fused together in an iron or platinum capsule. The fused mass is then dissolved in half an ounce of distilled water, filtered, and rendered slightly acid by the addition of a few drops of hydrochloric acid. The liquid thus treated

is next divided into two portions, to one of which a few drops of a solution of sulphate of copper is added, which immediately causes the evolution of the chocolate-brown colour, so characteristic of the ferrocyanide of copper; and to the other a few drops of the muriatic tincture of iron, or any persalt of iron, when the solution becomes intensely blue by the formation of the ferro-cyanide of iron, the ordinary Prussian blue.

In Mr. Austin's opinion, "these two tests, with the well-known odour of prussic acid, are, *independent of all others*, sufficient to convince the medical jurist of the presence of free prussic acid." Mr. Austin adduces several arguments to shew the superiority of this test over those already known to chemists, both in accuracy and facility of application, by persons not skilled in chemical manipulation.

The precipitates above mentioned are very distinctly obtained with half a grain of cyanide of silver.—*Abridged from the Dublin Hospital Gazette.*

OBITUARY.

Conceiving it to be the duty of the conductors of periodical literature, and particularly that of a professional character, to notice the labours of their deceased brethren, whose reputation and position entitle them to a more permanent record than the public press can afford, we purpose to devote a short space in The Dublin Quarterly Journal of Medicine to sketches of the character and writings of those eminent men who have contributed to uphold and give a tone to Irish medical science, not only in our own time, but also during the last century; and, when materials can be had, in times still more remote.

On the present occasion we have to record the death of Doctor George Greene, Professor of the Practice of Medicine in the School of Physic in Ireland; and we believe that we speak the sentiments of the entire Profession in this country, when we declare that by his early death medical science has lost an ardent and faithful votary, and the Profession one of its most amiable, honourable, and high-minded members.

Doctor Greene, fourth son of Sir Jonas Greene, late Recorder of Dublin, and brother to the present Attorney-General for Ireland, was born in 1800, and commenced his professional studies at the Meath Hospital, and the School of the College of Surgeons, in 1817, as an apprentice of the late Mr. Hewson. Intending to devote himself to the practice of surgery, he became a licentiate of the Royal College of Surgeons in 1823, and shortly afterwards he was appointed one of the demonstrators of anatomy in the School of Medicine, Park-street. He soon displayed singular aptitude as a teacher of anatomy, possessing great fluency, much originality in description, and the enviable faculty of enlisting the attention of his hearers in a manner seldom witnessed in an anatomical theatre. But his prospects as an anatomist and a surgeon were fated to meet one of those severe checks under which many men would have sunk. In

1828 he had the misfortune to lose his right hand by an accidental gun-shot wound, by which the part was so shattered that immediate amputation at the wrist-joint became necessary. Being thus excluded from the practice of surgery, he, as soon as his impaired health permitted, devoted himself exclusively to the study and practice of medicine, and was elected a Fellow of the College of Physicians in 1830. In December, 1832, he was appointed physician to the Talbot Dispensary, and soon after became the lecturer on the theory and practice of physic in the Richmond School of Medicine. On the death of Professor Lendrick, in 1841, Dr. Greene was elected to the vacant chair of the practice of Medicine in the School of Physic in Ireland, and in the year following he was appointed one of the physicians to the Whitworth and Hardwicke Hospitals. He continued to fulfil the duties of these situations; and on the formation of the Pathological Society, in 1839, he took a prominent part in the establishment of that most valuable institution. He served on the Council up to the period of his death; and it is interesting to find that the first communication made to the Society was by him, and his last public act was his attendance at the weekly meeting of the Society. On the following day he was attacked with symptoms of fever, which there is every reason to believe he had contracted in the discharge of his public duties, and under which, unhappily, he sunk on the 5th of April last.

The untimely death of this accomplished physician adds another name to the long list of Irish medical practitioners who have been cut off by contagious fever. We possess evidence which may, in the proper time and place, be made use of to shew that the mortality from this cause among the Profession in Ireland is of such a magnitude, as to call loudly for an inquiry on the part of the Government and of the country.

Of the writings of Dr. Greene—all of which are to be found in the pages of our former series, from the year 1835 to 1843—the principal were his remarks on the diagnosis of aneurismal and other intra-thoracic tumours, and his very original and important discoveries on empyema, which stamp him as an observer of the first order. He also made many important communications to the Pathological Society, for which we refer to the printed Transactions of that body. They were enumerated in the general Index of our Journal, published in November last. For some years past he had been laboriously employed in collecting materials for a series of papers on the subject of thoracic aneurisms, the first of which was to have appeared in our Number for August next. We still hope to be able to present our readers with this most valuable addition to the pathology of the circulating system. He was also engaged in a work on fever. We trust that the Profession will thankfully receive such portions of these remains as may appear, as a legacy bequeathed to them by one whose whole life was one continued exertion in the great cause of science, of medicine, of humanity, and of truth.

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